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AMERICAN VETERINARY REVIEW.

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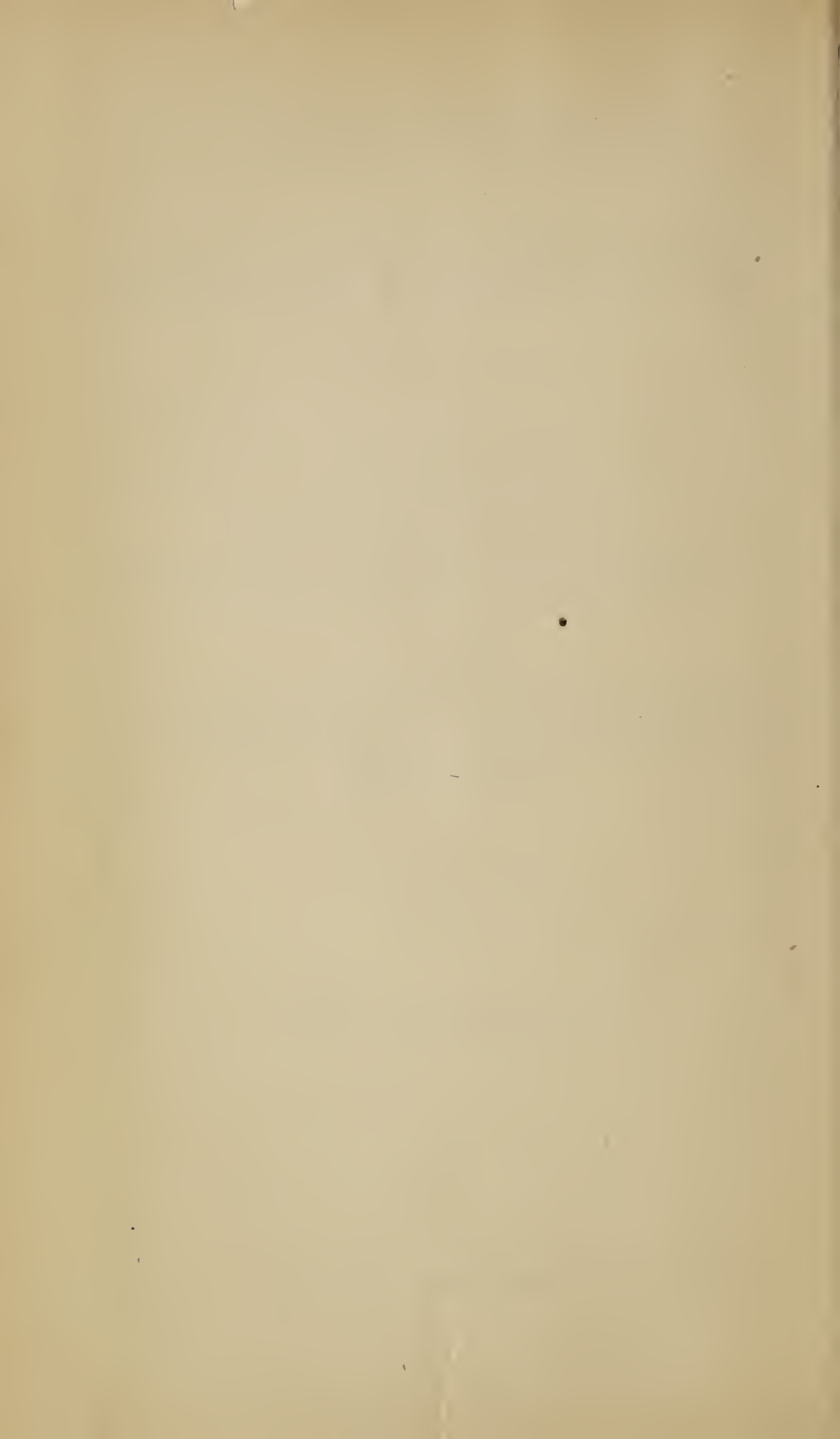
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AND OTHER VETERINARIANS.

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AMERICAN VETERINARY REVIEW,

APRIL, 1885.

EDITORIAL.

OUR NINTH VOLUME.

Our readers will excuse our feeling of satisfaction and pride, and our contributors accept the tender of our thanks upon the issue of the opening number of our ninth volume. For the past eight years, during which we have labored in the publication of the REVIEW, we have endeavored to conduct it in such a manner as to insure to our friends and readers both pleasure and profit in the study of its pages. The success which has rewarded our undertaking, proved not only by our length of life, but by our constantly increasing list of subscribers, is evidence that we have not failed in our efforts nor labored in vain. It is also a stimulus to increased zeal and faithfulness, and encourages us in the task we have accepted, of carrying forward the flag of veterinary science and education. In issuing the present number, we cannot, therefore, do less than improve the opportunity to thank our friends and assistants for their able co-operation in the work of making the REVIEW essentially the Veterinary Journal of the United States, and the accepted organ of the veterinary profession and of the veterinary colleges and societies of the country.

It shall be our highest aim to persevere in the same path,

and we can assure our readers that no effort will be spared to continue to deserve their support and their assistance in increased measure in the future.

VETERINARY LEGISLATION.

In our last issue we published the frame of the bill to be presented to our State Legislature to regulate the practice of veterinary medicine in the State of New York, which, by the way has been favorably reported.

The bill as it read was, no doubt, prepared with the best intentions on the part of those who framed it, and the objections that may be opposed to its passage ought not to be based on such trivial and improper reasons as those which have been presented by gentlemen who do not seem to appreciate the good motives which have influenced the friends of the measure. While our judgment may not have been fully in accord with its various provisions, we are persuaded that in its preparation an honest purpose sought to give satisfaction to all persons who were interested in the object sought for, and to hint that it is manipulated in the interest of one or two heretofore rival societies, which at the present time are in friendly co-operation, or to promote the interest of any particular college, is both undeserved and unjustified by facts.

The object which it was expected would be realized by the proposed act, as introduced by Mr. Earl, is to protect every veterinary practitioner in the State, now in practice, and prevent a new growth of self-made men from springing up after its passage.

The difficulty of the passage and acceptance of the bill on the part of many of our friends from country districts, seems to lie in the proposed requirement of an examination before a board appointed by the State societies. The objection which is made is that this bill does not provide for keeping a record of the examinations. A second bill, which we publish to-day, is offered by another body of veterinarians.

It is to be regretted that so invidious an imputation of partiality and wrong motive should be made and endorsed by honorable men, especially by one who has every reason for believing

in the fairness and candor of those to whom he must refer his gradnation; and we trust that a "sober second thought" will show conclusively the error of the suspicion.

Where, indeed, and what is the great impropriety of exacting the examination provided for in the bill? Why should any practitioner object to it? Why should the constituents of our Assemblymen and Senators so strenuously oppose it? What is there in the idea of an examination—not the examination before one board, as suggested by the New York State Society bill—nor that asked for by the Rochester State Society? Examination *per se*, that is the trouble.

Again, what are the benefits to be expected from a bill that requires all practitioners, of any number of years standing, to register and practice, provided their status has continued for a definite term previous to the passage of the act. It is not to kill the quackery of the present time, but to prevent it in years to come. It is only within a few years past that veterinary schools have existed in this country. It is but recently that the veterinary schools of New York, Massachusetts, Pennsylvania and other States, and of Canada, have been organized. Gentlemen desirous of entering the profession have now no longer any good reason for setting up in practice on their own casually acquired and amateur knowledge, with the excuse that there are no means of obtaining a thorough and sufficient education. The object we should all have in view ought therefore to be to secure recognition at once for all who can furnish evidence of having practiced for a number of years, and to prevent a new growth of self-made, self-taught and, therefore, half taught and untried lay practitioners.

Let, then, all the clauses requiring an examination be cancelled; let all who are now earning their living by the practice of veterinary medicine be authorized to register; let our representatives in Albany designate the length of time which shall be considered sufficient to entitle one to so register. But let us have a law which, if of no special advantage to the present generation, will protect the next; an act which shall not only secure that end, but provide the means by which all the various depart-

ments of veterinary practice in the State shall, in the future, be occupied by men worthy of their position and of the confidence of the people, by reason of the education they shall have been obliged to acquire.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

We publish the report sent us by Prof. Michener, Secretary of the Association, who represents the last semi-annual meeting as one of the best sessions the Association has ever had. If one considers that at that meeting, among other matters for discussion, poisoning by ensilage, cerebro-spinal meningitis, nymphomania, tuberculosis, paralysis of the antero-femoral nerve following azoturia, etc., etc., were discussed, one cannot but seriously regret his absence at the time of the presentation of such subjects. It is unfortunate that no more can be published on these various subjects than what is stated in the too concise report of the worthy secretary.

NEW YORK STATE ACADEMY OF SCIENCE AND COMPARATIVE PATHOLOGY.

The first news of this organization is made public by the following extract from the New York *Herald*, March 25th :

VETERINARY SURGEONS.

In the United States Hotel last evening a number of gentlemen well known in veterinary circles in the city and State of New York met, according to appointment, and organized a new association, to be known henceforward as the New York State Academy of Science and Comparative Pathology. Among the gentlemen present were Dr. Plageman, Professor Peters, Professor Hamil, Dr. Chas. A. Meyer, Dr. Earl, Dr. Gill, Dr. Middleton and Dr. Robertson. The Society will be registered for incorporation to-day. One of the objects of the Society is to break down the barriers which separate the studies and divide the sympathies of medical students.

CORRECTION.

The name of our confrere, F. S. Billings, was erroneously printed on the title page of our 8th volume, as issued last month.

ORIGINAL ARTICLES.

SHOULD EXPERIMENTS ON ANIMALS BE RESTRICTED
OR ABOLISHED?*

BY ROBT. MEADE SMITH, M.D., Professor of Comparative Physiology, University of Pennsylvania.

In 1876, the agitation which for several years had been looking to the abolition of experiments on animals, gained its first decisive point in England in the passage by Parliament of what is there known as the "Cruelty to Animals Act." Under the working of this law it is made a criminal offense, punishable by fine and imprisonment, for any one, even the most eminent physiologist, unless hampered by the most senseless restrictions, to perform any experiment which may entail the least possible pain or inconvenience on any vertebrate animal, even if it is known that the most valuable results will follow the experiment. Since then there has been the most astounding zeal to emulate this example of English narrow-mindedness. In New York the introduction and defeat of a similar bill has become a perennial affair, while we in Pennsylvania are threatened with a similar fate by a society expressly organized for preventing physiological progress.

Fortunately the good sense of our governing bodies has so far prevented the passage of any such obstructive law; but the misdirected zeal of the advocates of the prevention of experiments on animals has made converts in nearly all groups of society, excepting only among those who are at all capable of forming any opinion as to the value of the arguments brought forward; and since scientific men and physicians are rarely found in our Legislatures, there is no telling when we may be restricted in our attempts to advance the standing of physiology, and thus improve our capabilities of relieving and preventing human and animal suffering.

*An introductory address to the course of lectures on Comparative Physiology. Reprint from the *Therapeutic Gazette*.

The only course open to us is to prove to our honest and unprejudiced opponents that they have been imposed upon by the exaggerated statements of professional agitators. This we can do by answering the ever recurring question: What good has been gained by experiments on animals? I will not attempt to prove to you—what society to-day does not hesitate to admit—that to apply animals to purposes useful to man is one of the manifest ends of their mutual relationship on earth; or that almost every advance in our knowledge of the workings of the human body has been gained through vivisection.

Enough has been written in this controversy to demonstrate beyond question that the present status of physiology is almost entirely due to well-directed experiments on animals. What I wish to-day particularly to call attention to, is the fact that the condition of our domestic animals has been largely improved by the very same means.

Whatever improves our capabilities for curing or preventing human disease is nearly always capable of application to the treatment of diseases of animals; for the art of medicine is one, whether applied to man or to the lower animals. Therefore every advance in physiology, surgery, toxicology or pharmacology may ultimately, even if not immediately, serve to improve the condition of the very animals at whose expense they were attained. No attempt, however, will be here made to show how experiments on the lower animals have advanced our knowledge of any of the above branches of the science of medicine; that has been already done over and over again, and the results of those experiments are, or should be, so well known that to contest them is to lay one's self open to the charge of profound ignorance of a subject on which no diffidence is shown in the expression of opinion; or to the equally serious charge of wilful blindness. All that I will at present attempt to show is that animals themselves have been benefitted by such studies.

When we artificially produce a disease in animals we are only imitating the process of nature; but we produce the disordered state of the system in such a way that we are able to follow the various steps of the process much more accurately than is possi-

ble in the treatment of similar diseases occurring as the result of natural causes; for it is the mystery which surrounds the origin of diseases which has always proved the most formidable obstacle to their cure. And, moreover, when diseases appears in a previously healthy subject, the morbid process is never or rarely noticed until it has obtained a firm foothold on the system. The time has then passed, maybe, when our therapeutic interference can be of any avail.

But when we produce a disease artificially the animal is kept under the closest observation, and the first trivial deviation from the state of health is noticed and may serve as the starting point of treatment which then has every prospect of success. Production of disease in animals bears the same relation to its diagnosis as synthesis does to analysis in chemistry. We may analyze a chemical compound, but we can never be sure of its intimate construction until we are able to reform that compound by recombination of its constituents. For this reason our acquaintance with inorganic chemical compounds is much more complete than with the organic, for the former may be both decomposed and recombined, while the synthesis of the latter in nearly all cases is yet beyond our powers. We will also see that the diseases which admit of artificial production are the very ones in whose prevention or treatment we are most successful, and that the discovery of the cause and the artificial production of a disease are long steps towards its cure.

Naturally the contagious and infectious diseases, from the great mortality which always attends their appearance, have attracted the most attention. Some of these are peculiar to single species of animals, others are widely transmissible from one group to another, and others are common to both man and the lower animals, and are communicable from the latter to man; such as glanders, rabies, anthrax, foot and mouth disease and tuberculosis, as well as the various parasitic diseases. Until we are familiar with the conditions which produce a disease, and this knowledge is rarely attainable but through the capability of originating that disease, we can never make any decided improvement in treating that disease. All our best-meant efforts will be

but aims in the dark, treating symptoms as they arise while the true *causus morbi* escape us. This will be abundantly proved when we come to consider the results of the experimental production of the various morbid states. Those which we are able to produce at will, we will find, will be those in which our success in prevention and cure is the most marked; while those which have still eluded all attempts at the isolation of their specific virus are those in which we are most helpless.

The most important discovery that has ever been made in pathology was the recognition of minute vegetable or animal organisms as the cause of different contagious diseases; and how could that discovery be made but through experiments on animals. It had long been known that the blood and secretions of men and animals suffering from the different contagious diseases were crowded with these organisms (bacilli), but until we were able, by isolating these bacilli and injecting them into the blood of other animals to produce the same disease, we could not be sure that they were actually the cause of the disease, and not mere coincidences; or that they flourished in the blood of such diseased subjects, because that fluid had undergone some subtle change, absent in normal blood, and favorable to the vital conditions of those organisms.

But that is not all. Great discovery as it was to be able to isolate the agent of these deadly diseases, it was still more wonderful that in the study of the characters of those organisms we should be able to discover the means by which we could not only rob them of their deadly attributes, but that we could make these organisms themselves serve to prevent the very disease it is their nature to produce. And how could this be determined but by experiments on animals? It was found that by cultivating these organisms in proper nutritive fluids, or by subjecting them to definite degrees of heat, they gradually lost their virulence and even acquired the property of preventing disease.

Many experiments were necessary to establish this. Numerous experiments, entailing the death or disease of the animal experimented on, had first to be made to prove that the actual cause of the disease had been isolated. Other experiments were then

necessary with the virus in different stages of cultivation (attenuation) to determine when the virulent properties disappeared. The anti-vivisectionists tell us that all the results of experiments on animals could have been obtained by a hundred different and better methods than by vivisection. In what one other way could we have learned these facts but by experiment? It is unfortunately true that the diseases over which we have acquired such power are but few in number; but the list is a long and rapidly growing one in which we are gradually gaining this mastery over disease. Will it facilitate our progress to obstruct us in the one way in which any valuable results have been obtained? Let me give you one or two illustrations of the truth of this.

Anthrax* or splenic fever, known in France as charbon, and in Germany as milzbrand, is one of the most widespread and fatal scourges to which animals, whether in a state of nature or domestication, are liable. It decimates the reindeer herds in the polar regions, and the herds in the tropics, and affects the carefully tended herds of the most highly civilized countries equally with the wandering herds and flocks of the Mongol steppes. In fact there is scarcely a region in the entire world where anthrax is unknown. And its antiquity is as great as its distribution is wide. It is described as one of the scourges inflicted on the Egyptians, and Virgil has shown its deadliness and contagion, and alludes to the dangers of the tainted fleeces to mankind, confirming what is now known as to the origin of woolsorter's disease. But through all this time, and in spite of the innumerable volumes and treatises written on this subject, no progress was made in its prevention or cure until its cause was isolated, and the means of its prevention discovered by experiments upon animals. It has now lost all its terrors and we may hope that it will ultimately be eradicated from all civilized quarters of the globe.

The general public cares nothing for any scientific truth for its own sake, but only for the so-called practical benefits to be derived therefrom. And it is well known that men are proverbially

*See article on Vivisection, by G. Fleming, in *Nineteenth Century*, March, 1882, from which part of the following data were obtained.

ally indifferent to matters of health as compared with matters which may affect their pecuniary resources. While, therefore, it might be expected that our zealous anti-vivisectionists might regard with incredulity or indifference the fact that the basis of physiology, which, in turn, is the foundation of pathology, rests on experiments on animals, let us only show them that such experiments may save their pockets, and we may have some hope of convincing them of the utility of vivisection. Let me, therefore, give you some idea of the losses inflicted by anthrax.

In one district of France alone (Beaunce) it killed annually 187,000 sheep, which (at only 30 francs a head) meant a loss to their owners of \$1,068,000. In 1842, when sheep were much less valuable than at present, the loss in the same district was estimated at \$1,416,000. In the district of Chartres, 17,800 sheep perished from this disease every year. In fact, it is estimated that in France alone, sheep to the value of \$4,000,000 are lost annually from anthrax.

In Russia also the losses are enormous, especially among the cattle. In 1837, in one district alone, 1,900 died of anthrax; and in 1857 it was reported that in the Russian Empire 100,000 horses had perished of the disease. In 1860, 13,104 cattle died out of 18,883, attacked with anthrax; and from the official report of 1864 it appears that in five districts of Russia, 10,000 animals, mostly horses, died of this disease, while 1,000 persons were infected and perished. From the 15th of January to the 27th of March, 1865, 47,000 cattle, 2,543 horses, and 57,844 other domesticated animals were lost in three other Russian districts; and in the Government of Tobolsk, in June and July, 1874, there perished from the "Siberian plague," as anthrax is sometimes designated, 1,735 horses, 516 cattle, 1,030 sheep, 52 pigs, 15 goats, and 106 human beings.

In other countries it is also very prevalent and deadly, and with us the ravages of "Texas fever," which is probably a variety of anthrax, are but too well known.

(To be continued.)

CONTAGIOUS PLEURO-PNEUMONIA.

Thesis presented by W. ZUILL, D.V.S., before the University of Pennsylvania,
Medical Department.

INTRODUCTION.

The disease I am about to consider is known under the following names :

Synonyms.—Lung disease ; pleura new disease ; new delight ; “Yorkshire” pulmonary murrain ; epizootic pleuro-pneumonia, etc ; called by the Germans, lungenseuche and peri-pneumonia exudativa contagiosa ; by the French, maladie de poitrine du gros bétail and peripneumonie contagieuse.

It is a disease peculiar to the ox tribe, and is said not to affect any other animal or man.

Being much interested in the subject, and having in my veterinary practice seen a number of cases, I have taken the opportunity to study personally the pathology and pathological anatomy of this disease, and also tried to make an inquiry into the nature of the supposed poison ; from my experience I must fully agree with those who consider the disease of specific and malignant character, eminently contagious to animals of the same tribe.

The microscopical examinations of the specimens I made in the pathological laboratory of the University of Pennsylvania, were thorough.

For the convenience of the examiner, I have introduced into this essay appropriate illustrations ; extracts from the excellent writings of Prof. William Williams, F.R.C.V.S., Edinburgh, in his *Principles and Practice of Veterinary Medicine*, and of Charles P. Lyman, F.R.C.V.S., in his third report to the Commissioner of Agriculture at Washington.

DEFINITION.

A contagious febrile disease, peculiar to the animal before mentioned.

It is supposed to have originated in Central Europe, and has been conveyed to all parts of the continent, to Great Britain, Africa, America, Australia, India and New Zealand.

It is due to a specific poison, which is the direct cause of the disease.

It gains ingress into the system by the lungs, has a period of incubation of from ten to one hundred days, and induces complications in the form of extensive croupous exudation into the parenchyma of these organs, and particularly into the lymph spaces, also upon the surfaces of the pleura. This finally results in consolidation of the lung, occlusion of the tubes, emboli of the vessels, and adhesion of the pleural surfaces.

In some cases destruction of the lung tissue is extensive, rapid, and complete, thereby causing death from suffocation; more commonly a lingering character of the disease manifests itself, with symptoms of blood poisoning, and great exhaustion from absorption of the disintegrated pulmonary exudate, and death from apnoea.

CLINICAL FACTS CONCERNING PLEURO-PNEUMONIA BASED UPON PERSONAL OBSERVATION.

On the 22d of September, 1883, soon after the present outbreak of contagious pleuro-pneumonia in this State, I visited Media for the purpose of investigating, and, if possible, tracing the origin of this disease; it having prevailed for several years among cattle owned by a Mr. Williamson, breaking out at frequent intervals without giving any evident cause to the attending cow leach. After a little questioning, the cause of the disease on this farm became so evident as to be scarcely overlooked by a most casual observer.

It was stated that the disease first appeared on this farm two or three years prior to the present attack. Of the animals then affected one was still retained by him, and she had had a cough ever since. She was considered to be the best cow on the farm.

Other facts elicited in the history show that new outbreaks of the disease on this farm have followed the introduction of fresh cattle.

In the present case, four animals were brought on the farm, of which one had died of the disease and another was slaughtered by the State authorities twenty or thirty days after.

At the time of my visit the third animal was said to be convalescent and was not examined. The fourth, which the owner said had never been sick, was examined and found to be suffering from contagious pleuro-pneumonia. The symptoms were not marked; the temperature $102\frac{1}{2}^{\circ}$; the respiration somewhat hurried, percussion dullness in the lower third of the right lung, covering an area about equal to that of the open hand, with complete loss of respiratory murmur in this part. In every other respect this animal appeared to be perfectly healthy. Such an animal may be considered as one of the most dangerous class of cases, as the symptoms being hardly sufficient to attract attention were in danger of being overlooked, especially by non-professional men.

The next animal examined was the chronic case (before referred to) of over two years' standing, which was apparently in a perfectly healthy condition. The temperature was normal; feeding and milking freely; in fact, the only evidence of disease was a slight cough, with varying degrees of percussion dullness over the left lung, the pitch of the note seeming to change with every new area of the organ examined. This was accompanied by a respiratory murmur as variable in character as was the percussion note; in some places coarse bronchial breathing, in others murmurs of a transmitted character were heard, while in others an exaggerated vesicular breathing was detected.

The diagnosis was made in this case of imperfect resolution, in which islands of the pulmonary exudate had undergone caseous change, while the intervening tissue had returned to normal, giving the lesions found on percussion and auscultation. It was considered that this animal had been the nidus of infection of this farm, and the cause of the various outbreaks of the disease in this locality.

On reporting these facts to the State Agricultural Department, their veterinary surgeon was sent, who destroyed the animal. I was not aware that this had taken place, until two or three weeks after. I was then told that the case was one of tuberculosis, and not pleuro-pneumonia, which I consider to be a mistake in diagnosis, the chronic degenerated lesions of the one being mistaken for those of the other.

[To be continued.]

COLICS IN HORSES.

BY MR. LAGUERRIERE.*

The term COLIC designates various pains located in the abdomen, and characterized by a more or less violent struggling of the animals affected.

This word, in its strict etymology, should indicate an affection confined to the colon, and of which the principal manifestation would be pain. But by an unfortunate extension of this definition, based on the frequent difficulties of diagnosis, it has been made to include all acute affections of the abdominal organs of which pain is the characteristic symptom, whether steadily severe or increasing in degree; or whether continued or intermittent, and objectively exhibited by constrained attitudes or violent struggles. Even pains confined to the chest, especially of the pleura, have also, at times, been included in the category of colics. Thus, in a clinical sense, this term has been accepted as a general designation for the most varied diseases, differing in their genesis, their seat, their nature and their prognosis, if only possessing some common symptoms more or less uniform.

This habit of indeterminate definition, so widely prevailing, is really an abuse. It introduces confusion in the study of disease, and, to a certain degree, increases the natural difficulties of diagnosis. And while we acknowledge that this purely collective method of denominating is a thing of daily use, and that it often suggests itself when it cannot be replaced by another and better term, still we would gladly see it restricted to a more definite and limited meaning. We would not, however, forget that the word colic, now established by long use, is in fact recognized and authorized by a sort of prescriptive right, at least, not only in veterinary but in human medicine also. But, although we accept claims derived from long usage, and sometimes sanctioned by the exigencies of practice in permanently settling the use of the term, we still feel that it is proper to inquire into the true nature of the diseases of which colic is only a symptomatic feature, and

* Translated from *La Presse Veterinaire*.

by such inquiries to develop, as in a majority of cases we are able to do, a possible and correct diagnosis.

Celebrated authors, amongst whom are Fendrier and Legrain, have recommended that the term colic be dismissed from the nosological list; Zundel and others apply the name only to pains exclusively gastro-intestinal. Zundel calls the other abdominal pains pseudo-colics, and defines them further by connecting the name with that of the organ affected. Hence the hepatic, nephretic, cystic, uterine colics, etc. Verheyen and Legrain consider as colics all painful manifestations located in the gastro-intestinal canal only, making no allusion to the lesions which produce them. Roll wished to confine the term exclusively to diseases not affected by material lesions, as well as to those produced by intestinal obstructions, alterations of structure and modifications of form. Niemeyer is still more restrictive, and with reason, reducing the list of true colics, which he views as simple entralgia, not involving any material alterations: if following this entralgia, congestion, inflammation or other alterations of form or structure take place, the colic loses its nominal title and is named in the pathological nomenclature according to its seat and nature. Reynal accepts the word in its wider meaning, and applies it to all pains located in the abdomen and manifested by a series of uniform symptoms, entirely ignoring all question of the causes in which they originate.

To resume: There are two opinions among scientists. On one side are those who advocate the dismissal of the term colic from the nosographical nomenclature, or who would at least reduce more and more its signification and application. The other party would accept it as a symptomatic designation belonging to all abdominal pains. The first party consider abdominal pains as so many different morbid conditions; the latter would elevate the common symptom to the position of a true independent disease.

Our own view is that while retaining the use of the term, it would be proper to limit its use exclusively to those cases where the diagnosis is absolutely impossible. The practitioner then must endeavor by minute investigation to recognize and define the true nature of the affection he has to treat. In his examina-

tion he not only will look for the common symptom, pain, but also amongst the symptoms themselves collectively, for the peculiar and differential characters they may offer. These are far, it is true, from being constant and uniform. On the contrary, they are essentially variable, and they most commonly present themselves under some special morbid conditions whose recognition is sufficient to determine their true pathognomic character. The diagnosis being thus established, the clinician can readily reach the true conclusion as to the therapeutic method indicated.

Without such a diagnosis the clinician is obliged to treat the pain as the only symptom. This may enable him to give relief, and perhaps to cure, but it is essentially an empirical mode; in resorting to it one acts blindly and without discernment. We may occasionally, in this way, assist nature; or, on the other hand, we may interfere with it in its efforts to recovery.

Most of the authors who have written on this subject have attempted to make a classification. We shall follow their example in dividing colics into seven groups, each of which will represent a certain number of affections:

The first six groups belong to colic proper of the gastro-intestinal canal. The seventh comprises the colics resulting from diseases of other than abdominal viscera. These may be resulting from simple alegia, acute and chronic lesions, calculi, ruptures, etc., and are the false colics of Zundel. The pains following pleurisy may also be placed with this group.

[To be continued.]

REPORTS OF CASES.

CROUP—CYNANCHE TRACHEALIS.

By J. J. VANDEREE, V.S.

I do not remember of reading anything on the above as reported cases happening in this country, so I will, with your consent, report three cases coming under my observation and treatment.

December 3, 1884, I was called to the residence of Mr. Sam-

uel Earp, living about seven miles southwest of our village. On my arrival I found a four-months old calf suffering from the above complaint. *Symptoms*.—Breathing, very difficult; some saliva running from the mouth, and mucus from the nose; right side of the neck very much swollen, especially in and around parotid region; had been ailing for about fifteen hours.

Ordered in the way of treatment, formentations and steaming to head:

Pot. chlor., grs. 40.

Aqua C., $\bar{\text{z}}$ iv.

M. sig. three times per day.

Prognosis unfavorable, which I was told afterward was the case, inside of twenty-four hours.

The other two cases were on the same place, belonging to the same man. He told me that they were taken about nine o'clock p. m. day previous; were taken with violent paroxysms caused by spasms of laryngeal muscles occurring without any premonitory warnings; died in two hours from the time taken; post mortem revealed a total closing up of the larynx.

These calves had been running with the cows in a pasture with a living stream running through it, and land rather low; had four more calves running with those spoken of, which were in perfect health, and have been to this day.

Cornell, Illinois.

MURIATE OF COCAINE.

By GEO. C. FAVILLE, D.V.M.

The introduction of any preparation into the veterinary pharmacopœia that will aid the operator in performing the minor operations, either by aiding in the control of the animal or by rendering the pain less acute, must be hailed with delight.

The experiments that have of late been made by members of the sister profession, in the use of muriate of cocaine, have been of great interest, and the question must have come to

many, why cannot this drug be used as well in veterinary practice. Undoubtedly many of the members of the profession have used it with greater or less success, and would it not be well if each should give to the rest of the profession the results of his observations? Believing that the best interests of all would be thus subserved, I send the following observations.

A Jersey cow belonging to a dairyman in town, in eating about a stack of oat straw got a piece of oat chaff into her eye. After numerous fruitless efforts to remove it the owner let it go, thinking that in time the eye would "come all right."

But instead of that, the eye became badly inflamed, the cornea turning white and opaque, and strong bands of lymph being thrown across the piece of chaff, effectually retaining it in position.

The cow, which was a valuable animal, resisted all efforts to open the eye by the powerful action of the nictitating membrane and eyelids.

Four drops of a 4-per-cent solution, introduced one drop at a time, three minutes apart, so completely anæsthezied the conjunctiva that with one hand I opened the eye and held the lids apart, while with the other I tore the lymph shreds and picked out the chaff without having to hold the head otherwise than with a halter.

The pupil was dilated in less than fifteen minutes to near its full extent, and the conjunctiva could be raised with the forceps with absolutely no "flinching." Several times have I tried experiments upon my driving horse's eyes, and find that I cannot produce as favorable a condition of the pupil for ophthalmoscopic examination by the use of a 4-per-cent solution of atropia sulphus as I can with cocaine. The drug is an expensive one when bought in quantities. The small amount needed for ophthalmic surgery renders its use within the means of anyone; and its perfect action, in so far as my experience goes, renders its use desirable.

EXTRACTS FROM FOREIGN JOURNALS.

A CASE OF INTESTINAL GASEOUS INDIGESTION, REQUIRING
THREE PUNCTURES OF THE INTESTINES.

BY MR. BAUDON.

A stallion attacked with colic, at first slightly and then severely, was temporarily relieved by a single puncture of the intestines. The improvement was but transient, the flatulency returning after a short interval, when a second puncture was performed at a point from two to three inches from the first. This also was without satisfactory results, the animal lying down immediately on the right side, displacing the cannula and preventing the escape of the intestinal gas. The horse growing rapidly worse, and his life being in danger, he was tapped the third time at about three inches from the points previously punctured. This time the operation proved successful. The animal was immediately relieved, and half an hour afterwards seemed to have entirely recovered.

In order to prevent the inflammation of the intestines, likely to follow these operations, a large sinapism was applied under the abdomen, and a blister rubbed in the hollow of the flank.

Everything progressed favorably until the sixth day, when an abscess formed on the flank. This was opened on the ninth day, allowing the escape of a large quantity of pus. The skin and muscles of the region were so extensively undermined by the pus that a free counter-opening was necessary to allow the treatment of the abscess. Notwithstanding this, the recovery was slow, until an abscess showed itself on the right side of the scrotal region, which, on being freely opened, discharged about a pint of pus. From this time the animal began to improve, and in a week had entirely recovered.—*Journal de Zootechnie*.

A CURIOUS CASE OF LATERAL PRESENTATION IN A COW.

Transversal position of the calf; trying to go through the neck of the uterus by the right side of the chest; two curvatures of the vertebral column from right to left—one anterior, the other posterior.

BY MR. ROBOIS.

History.—A robust, healthy cow, the mother of three calves, had been in pain since morning. Her present pregnancy had

been unattended by any extraordinary features, except that after her fourth month, she had appeared very large, and was supposed to carry twins. In the morning, she had some pains, which had increased. The sacs not having ruptured, and exploration failing to recognize any part of the calf, Mr. B. was sent for.

The examination was difficult. The vulva was sufficiently moist, and a little swollen; the vagina well dilated, as also was the neck of the uterus, and the size of the pelvis in good condition. Nothing appeared to prevent the delivery, and still no trace of a foetus was detected. Pushing the hand into the uterus a round mass was felt, soft and easily displaced by pressure, but returning to its position as soon as the pressure ceased. This ball-shaped mass was formed by the true and false ribs of the right side of the chest, and were opposite the neck. Exploring from right to left in the uterus, and expecting to find the head and neck, the hand, on the contrary, touched the iliac angles, the sacral vertebra and the tail. Feeling further along the curvature of the spine, the lumbar region was soon recognized by discovering the front of the ilium, and a little further down, and under the flat of the thigh, the prominence of the stifle joint. Exploring now towards the right, guided by the line of the spine, it was easy to observe that the neck was bent back into the right iliac fossa, with the head thrown into the right flank of the cow, powerfully flexed between the anterior legs, and extending from right to left. The sternum of the calf rested on the inferior wall of the uterus.

The position of the calf was by the right costal region of the thoracic cavity, forming a first curvature in the left iliac fossa of the vertebral column, from right to left on a level with the loins; and, again, in the right iliac fossa, a second curvature, also from right to left, embracing all the forward parts of the foetus, turned toward the hind legs on the left side of the chest of the calf.

After several attempts, continuing several hours, the cow was delivered of a dead calf, by directing the assisting efforts to straightening the curvature of the anterior portions of the animal. Forty-eight hours after the delivery the animal had entirely recovered.

This case is reported as probably the only one on record, so far as the presentation of the fœtus is concerned.—*Recueil de Med. Veterinaire*.

WOUND OF THE URETHRO-PERINEAL REGION OF RARE OCCURRENCE.

BY MR. BIELER.

A singular case occurred on the 28th of November while Mr. X was driving out in his carriage, drawn by two horses. After proceeding a short distance, the driver stopped, and on inquiry as to the cause, answered that he "did not know, but that something had happened." In carefully observing one of the horses, he had noticed at the anus a greyish body, protruding about an inch. Taking hold of it he drew out a stick of wood eighteen inches in length, and an inch and a half in thickness, which was implanted in the manner of a seton-needle under the skin, from the sheath, on a level with the urinal canal, and which, following the course of the urethra, had made its exit at the rim of the anus.

In examining the ground around the carriage, the driver found a wooden fork, whose broken handle exactly corresponded with the piece of stick extracted from the horse.

A simple treatment, with phenic lotions externally, and mucilaginous dressings, was adopted, and the animal returned to work in a short time.—*Journal de Zootechnie*.

TREATMENT OF COLIC WITH PHYSOSTIGMINUM.

By Prof. W. F. GARSIDE, Royal Agricultural College, Cirencester.

In the *Veterinary Journal* of November, 1882, I brought under the notice of English veterinarians an account by Professor Dieckeroff, of the action and uses of this drug (the alkaloid of Calabar bean, also known as Eseria). I am pleased to find that it can now be obtained from some of our wholesale druggists, and that it is also being used in the practice of some of my professional brethren. Mr. Nettleton's interesting article in the

Veterinary Journal, January, 1885, is, I think, instructive on several points. One lesson, I think, ought to be gathered from its perusal, viz., to avoid being too hasty in coming to a conclusion regarding the merits or demerits of a new therapeutical agent. His first cases were by no means calculated to impress him favorably with regard to the drug now under consideration. Indeed, I rather suspect that Mr. Nettleton was somewhat disappointed, as he does not appear to have used physostigminum in his subsequent cases (with the exception of case No. 4) until other medicines had failed—in fact, its use looks very much like a *derneir ressort*. The success which attended his latter cases clearly justifies Mr. Nettleton, I think, in saying that physostigma deserves “a place as a valuable remedy in veterinary practice.”

Professor Siedamgrotzky, of the Dresden Veterinary College, has just published in the *Sächs. Veterinarber* (28 Jahrgang) a valuable contribution regarding the action of this drug. In the hope of helping those veterinarians who still hesitate about using physostigminum to come to a decision, I offer a translation of Professor Siedamgrotzky's instructive article:—

“During the last twelve months 97 patients were admitted into the Dresden College Hospital suffering from colic, of which 17 died. Eseria (physostigminum sulphate), which has been so strongly recommended by Dieckeroff, was administered at once in 53 cases. Every case of colic was not treated with eseria, but other remedies, such as morphia injections in slight cases of spasmodic colic, aloes in impaction, etc., were tried; whilst in severe and hopeless cases, in which one had reason to suspect displacement of the intestines, such as volvulus, etc., eseria was only occasionally given. The results of the treatment are given in the following lines, in which the diseases, as far as a knowledge of the history of the case and symptoms presented would allow us to judge of them, are grouped into the various recognized forms of colic:—

“1. *Spasmodic Colic*.—Six cases.—Fæcal evacuations took place in from 10–12 minutes, in one case, however, in half an hour after the injection of 0·04 gramme (in one case 0·05

gramme) of eseria. Recovery occurred in every case within half an hour.

“*Colic from Overfeeding.*—Recovery followed in two cases in an hour after administration of 0·05 gramme and 0·08 gramme respectively, and fæces were passed in two hours. In a third case, which was apparently a hopeless one, no action resulted from 0·04 gr. of eseria. Death occurred in half an hour. Post-mortem examination revealed rupture of the stomach.

“3. *Impaction Colic.*—Eight cases.—Passage of fæces took place in six cases in 15–45 minutes after the administration of eseria. Doses—in one case 0·03 gr., in five 0·05 gr., in two 0·08 gr. In two of the cases no action of the bowels resulted, notwithstanding that the dose was 0·08 gr. Recovery took place in two cases, but in the remaining ones it was necessary to administer, about two hours afterwards, laxative medicine (extract of aloes, etc). Recovery followed in 2–6 hours.

“4. *Flatulent Colic.*—Six cases.—Eseria, in 0·05 gramme doses. In every case, in 7–15 minutes, a large quantity of gases made their escape, recovery being complete in 30 minutes.

“5. *Constipation Colic.*—Thirty cases.—Recovery took place in twelve very severe cases after the use of eseria alone (one case 0·4, two cases 0·08, eight cases 0·05, and in one case 0·03 and 0·05 gramme); the intestinal murmurs were audible in 15–4 minutes, fæcal evacuations occurred in $\frac{1}{2}$ –2 hours, recovery taking place soon after. In eleven cases the injection of 0·05 gramme of eseria produced no effect, or at most only a transient one; laxative medicine was, therefore, prescribed after an interval of two hours, the result being recovery in 4–8 hours.

“Twenty-eight of the patients suffering from colic recovered in, comparatively speaking, a very short time, after the use of eseria alone. In twenty-four cases its action was insufficient, and was supplemented by the use of laxative medicine. Nevertheless, we have every reason to be highly satisfied with the results. Eseria is particularly applicable in cases of spasmodic and flatulent colic, and also in colic arising from overfeeding. It is more convenient, and acts more rapidly, than any other remedy.

"It should, however, be mentioned that the powerful intestinal movements which eseria calls forth are not always of themselves sufficient to break down and remove the hard impacted masses which are often present. In such cases, especially in those accompanied by obstinate constipation, we cannot afford to dispense with other laxative agents, such as aloes extract, Glauber's salts, etc."

It is be hoped that other practitioners who have used, or may in future use, physostigminum will follow Mr. Nettleton's example, and furnish us with the results. Might I suggest its use in some of the obstinate cases of constipation and impaction of the stomach in ruminants. It might also prove beneficial in tympanites in these animals; anyhow, it is worthy of a trial.—*Veterinary Journal*.

RUPTURE OF THE RECTUM.

BY A. SPREULL, F.R.C.V.S., DUNDEE.

The subject of this rather unusual lesion was an eight-year-old chestnut-colored, heavy lorry horse, the property of a firm of contractors here.

Up to the morning of the 26th of January he had been in perfect health, so far as could be seen, and even on that day he did his work as usual. He also ate all his food during the day, though he took rather longer to consume his allowance, and with the exception of his supper, which was not quite eaten out, he may be said to have taken his food as usual. It was remarked by his driver during the day that he made frequent attempts to micturate, and on this account he complained at night that he thought "all was not so right as it ought to be with him." No particular notice was taken of this statement, as he seemed to be all right again, and had begun to eat as usual after the day's work was over.

About midnight, however, the night watchman observed that he was breathing too rapidly, trying to pass urine again, being rather uneasy, but not much pained; after watching him for some time he considered it necessary to call the horse-keeper,

who in turn sent for me as soon as he had arrived and seen the state in which he then was. On my arrival, between four and five on the morning of the 27th, I found that the animal was standing in a very depressed condition, with haggard expression of countenance, head and ears pendent, mucous membranes injected, breathing accelerated, slight sweatings on the sides of the neck and at the flanks, considerably—but not excessively—swollen abdomen, pulse imperceptible at the jaw, and all the other symptoms indicative of collapse. After making a careful examination, I informed the attendants that he could not live more than five or six hours, and that he was suffering from peritonitis, the result of rupture of some portion of the intestines. I then took my departure, and when I returned found that the result was that he had died about nine o'clock that morning, about five hours after I had visited him.

The post-mortem examination made by me about three hours after death revealed a rupture of the rectum, about an arm's length or so from the anus, just beyond the entrance to the pelvic cavity, the opening being large enough to permit of the exit of a dust ball of about three inches in diameter, which I at once jumped to the conclusion had caused it, but on making a further examination of the abdominal cavity no trace of a calculus could be found. The contents of the stomach and larger intestines were perfectly regular and pultaceous, though these organs themselves—more especially the former—were considerably distended with gas; I was therefore forced to the conclusion that the rupture must have resulted from the effects of excessive tympanitis.

The chief point of peculiarity and interest for the profession in this case seems to me to be the comparative rarity of the rupture having occurred so far back as to be almost within reach of the hand, and this must be my excuse for recording it. I am further of opinion that the rupture must have existed for the greater part of, if not for the whole day previous to death, while he yet did his work, and at least had not entirely ceased to eat his food, as the peritoneum, both parietal and visceral, was inflamed throughout to a greater or less extent, showing that the irritant causing this had been for a considerable time

in contact therewith; and the fact that the mucous membrane and muscular coat of the bowels remained perfectly healthy, proves conclusively to my mind that the inflammation of the peritoneal covering arose solely from contact with the escaped ingesta. In addition to the part actually ruptured, there was another portion almost immediately in contact therewith, which had given way so far as the peritoneal covering was concerned, but the muscular and mucous coats remained intact; this rent extended for about six or eight inches, and had an average width of about half an inch, portions being as wide as double that distance.—*Ibid.*

GOOD FOR VETERINARY GRADUATES.

At the commencement exercises of the University Medical Department, which occurred on the 10th of March, Dr. E. Vreeland and Richard Kay, already graduates of the American Veterinary College, received their degrees of M.D. Dr. Vreeland stood first in a class of 189 candidates in order of merit.

SANITARY STATEMENTS.

The report of the various district veterinarians, addressed to W. McEachran, M.D., V.S., Consulting Veterinarian to the Department of Agriculture of Winnipeg, on the sanitary condition of stocks in the territory during the months of January and February, return: Seven horses discharged for chronic glanders, and four quarantined as suspicious. Six calves had died with anthrax, and four horses were found affected with scabies.—*North West Farmer.*

From Ohio, Dr. J. C. Meyers, Jr., furnishes the following statements:

In the six months ending January 1, '85, he has had nine cases of anthrax in cows, of which three died, and four calves

recovered; three cases of glanders in mules were discharged; and one cow died with tuberculosis.

Dr. J. B. Galtier, of Illinois, reports six fatal cases of anthrax.

Dr. Spranklin, of Maryland, reports, in the last four months of the year 1884, thirty-eight cases of contagious pleuro-pneumonia and thirty-one cases of hog cholera. He had inoculated 339 cows against pleuro-pneumonia, a number of which had died from the sequelæ of the operation.

Dr. J. Lindsay, of Long Island, N. Y., reports thirty-one cases of hog cholera.

D. J. B. White informs us that in the City of New York twenty-nine cases of acute pleuro-pneumonia and twenty-eight cases of chronic were found by ordinary inspection. There had been thirty-six cases of acute and twenty-three of chronic pleuro-pneumonia at the slaughter house, and post mortems at the offal dock showed twenty-eight cases of acute and eleven of the chronic forms of the same disease. Twelve cases of tuberculosis were found in the country districts by ordinary inspection, four at the slaughter houses and two at the offal docks.

The Board of Health of the City of New York have reported a large number of cases of glanders.

Dr. I. E. White, of Missouri, reports two cases of glanders.

AMERICAN VETERINARY COLLEGE.

TENTH ANNUAL COMMENCEMENT EXERCISES.

This decennial anniversary occurred on the 4th instant, and was held at the usual place—Chickering Hall. The friends of the college began to arrive by half past seven o'clock, and a long time before the opening of the exercises the hall was crowded to its fullest capacity.

At eight o'clock, the music of Cappa's excellent orchestra announced the opening of the proceedings, and to the beautiful strains of the *enlevante* march of "The Volontaires," the Board of

Trnstees, the Faculty, and a number of invited guests entered the hall by one entrance, while the body of graduates marched in by another.

On the platform, besides the officers of the institution, seats were occnpiied by Mr. Clarke Bell, the orator of the evening, Rev. B. B. Tyler, who kindly officiated in the opening and closing exercises, the Japanese Consul, and numerous eminent guests.

After the opening prayer, the ceremony of conferring the degrees was conducted in the usnal form by the President of the Board of Trnstees, Samuel Marsh, Esq., and the following gentlemen became recipients of the diploma of the College:

Edwin Milton Barnes, of Kenosha, Wis.; Theodore Birdsall, of New York City, N. Y.; George Bowers, D.V.S., of Brooklyn, N. Y.; Wessales Morrison Brodhead, of Media, Pa.; Abraham Lincoln Brown, of Stamford, Ct.; Robert Fletcher Burleigh, B.S., of Franklin, N. H.; Martin Cushing, of Joliet, Ills.; William Dimond, of Peekskill, N. Y.; George Wetsell Dodin, of Mendham, N. J.; Hugh Francis Doris, of Pittsburgh, Pa.; Edward W. Douglass, D.V.S., of Brooklyn, N. Y.; William Jest Elliot, of New Brighton, N. Y.; Owen William Finley, of Rockville, Ct.; Jacob Frederick Foelker, of Allentown, Pa.; Christopher Horseman, of Mount Vernon, N. Y.; Samuel Hamilton Kent, of Cadiz, Ohio; Honoré François Lainé, of Narajas, Cuba; William Robert Jay Mitchell, of New York City, N. Y.; James McCaffrey, of Brooklyn, N.Y.; John Nicholson Navin, Jr., of Indianapolis, Ind.; Robert M. Navin, of Indianapolis, Ind.; William H. Prophett, of Springfield, Mass; Stephen Longstroth Richards, of Farmingtown, Utah; Frederick Philip Ruhl, of New York City, N. Y.; Julius Walter Sheibler, of Memphis, Tenn.; Philip Harvey Seltzer, of Lebanon, Pa.; George Michael Steck, of Baltimore, Md.; Dominick John O'Sullivan, of New Haven, Ct.; Alpheus Allen Tuttle, of West Haven, Ct.; John P. Wilson, of Hamilton, Ohio; Haru Taka Yokura, of Tokio, Japan.

The gentlemen presented themselves as their names were called, and it cannot be doubted, will justify the college in com-

mitting to their hands the maintenance of its credit and repute.

The customary prizes for eminent proficiency and successful study were then presented by Prof. Doremus, as follows :

The gold medal of the Board of Trustees, for the best general examination, was awarded to Dr. Haru Taka Yokura, of Japan.

The gold medal offered by the New York State Veterinary Society to the graduate of any veterinary college in the State for the best practical examination, was awarded to Dr. Julius Walter Scheibler, of Tennessee.

The prize of the Alumni Association of the college, consisting of a set of standard works on veterinary medicine, for the second best general examination before the Faculty, was adjudged to Dr. William Robert Jay Mitchell, of New York.

Dr. John P. Wilson, of Ohio, was winner of Prof. Liantard's prize for the best anatomical preparation.

Two silver medals were also delivered ; one from Prof. Michener to the distinguished Japanese student, Dr. Yokura, for the best written and defended paper read before the college association ; the other from Prof. Liantard to Mr. Richard Ed. Buckley for the best examination in anatomy in the Junior Class.

The valedictory was delivered by Dr. W. Dimond, and after another delightful musical interlude, which was encored by appreciative listeners, the oration of the evening was delivered by Clarke Bell, Esq., and followed by the benediction.

It was a very pleasant occasion. The graduates and the prize men were all happy ; their guests and relatives greatly enjoyed themselves, and certainly the officers of the college may feel proud of the success that has crowned the work of the session of 1884-85.

ANNUAL DINNER OF THE ALUMNI ASSOCIATION OF THE AMERICAN VETERINARY COLLEGE.

This social gathering was held at Martinnelli's, Fifth avenue and Sixteenth street, the evening of the 3d of March. Quite a number of the old members of the Association were present, to-

gether with a number of the graduating class. A number of guests had been invited, including the Faculty of the college, the President and Secretary of the Board of Trustees, together with a few of the veterinary practitioners in the vicinity. Nearly forty sat down to dinner, which was highly enjoyed by all present. The first toast of the evening was to the college and Board of Trustees, to which Mr. Marsh, President of the Board, responded, while Dr. Pomeroy responded to that given to the Faculty, and Dr. C. B. Michener replied on behalf of the Alumni Association. Dr. Liautard responded in behalf of the veterinary profession. Toasts were given to the various classes, each of which was represented. Others were called on for remarks, among which were Dr. Robertson, Dr. L. McLean, of Brooklyn, Dr. Michener, Sen., of Pennsylvania, and Dr. Charum, of New York. Judging from the spirit that prevailed throughout the evening, it was most highly enjoyed by all present. These meetings come but once a year, and it is to be hoped that all will, in the future, avail themselves of the opportunity to mingle for a few hours with the companions of their college days; for it cannot be other than a mutual benefit and pleasure.

VETERINARY LEGISLATION.

AN ACT TO REGULATE THE PRACTICE OF VETERINARY MEDICINE AND SURGERY IN THE STATE OF NEW YORK.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. The Regents of the University of the State of New York shall appoint one or more Boards of *Examiners* in Veterinary Medicine and Surgery; each Board to consist of five members who shall have been duly authorized to practice the same in this State.

§ 2. Such examiners shall faithfully examine all candidates referred to them for that purpose by the Chancellor of said University, and furnish him with a detailed report in writing of all

the questions and answers of such examinations, together with a separate written opinion of each examiner as to the acquirements and merits of the candidate in each case.

§ 3. Such examinations shall be in Anatomy, Physiology, Materia Medica, Pathology, Clinical Medicine, Chemistry, Surgery, Therapeutics and Obstetrics.

§ 4. The said reports of examiners shall, with their annexed opinions, be forever a part of the public records of said University, and the order of the Chancellor addressed to the examiners, together with the action of the Regents in each case, shall accompany the same.

§ 5. Any person over twenty-one years of age and paying thirty dollars (\$30.00) into the treasury of the University and on applying to the Chancellor for said examination, shall receive an order to that effect, addressed to one of the Boards of said examiners; provided that he shall adduce satisfactory proof to the Chancellor that he has a competent knowledge of the branches of learning taught in the common schools of the State. No person however shall be eligible to an examination by the examiners appointed in pursuance with the foregoing provisions, for a *Doctorate* degree in Veterinary Medicine, who has not practised at least seven (7) years.

§ 6. The Regents of the University on receiving the afore said reports of the examiners and on finding that not less than three members of a Board have voted in favor of a candidate, shall issue to him a diploma; and in cases when the examination has been made with the view of conferring a doctorate degree, and the applicant is found worthy, a diploma shall be issued to him conferring the degree of Doctor of Veterinary Medicine of the University of the State of New York. Either of said diplomas shall be a license to practice veterinary medicine and surgery.

§ 7. The candidate on receiving either of said diplomas shall pay the further sum of twenty dollars (\$20.00). The Regents may establish such rules and regulations from time to time as they may deem necessary, and the moneys paid to the University as aforesaid shall be appropriated by them for the expenses of executing the foregoing provisions of this Act.

§ 8. It shall be unlawful for any person to practice veterinary medicine and surgery in the State of New York for fees unless he shall have received a diploma from an incorporated veterinary school, college or University *or* a certificate of qualification from some legally incorporated veterinary society ; provided that nothing in this section shall apply to any person who is now and has been engaged in the actual and continued practicing of veterinary medicine and surgery for at least seven (7) years in this State.

§ 9. Every person now engaged in the practice of veterinary medicine and surgery and qualified as required by section 8 of this Act, shall, within sixty (60) days after its passage, register, and every person hereafter duly authorized to practice shall before commencing to practice, register in the Clerk's office of the county in which he intends practicing veterinary medicine and surgery, in a book to be kept by said Clerk, his name, age, residence and place of birth, together with his authority for so practicing. The person so registering shall subscribe and verify by oath or affirmation before a person duly authorized to administer oaths under the laws of the State, an affidavit, containing such facts. If by diploma or certificate, the date of same and by whom granted, which if wilfully false in any particular shall subject the affiant to prosecution and the pain and penalties of perjury. The fee for such registration to be paid by the person registering.

§ 10. Any person neglecting to comply with, or violating the regulations of Sections 8 and 9 of this Act, shall be deemed guilty of misdemeanor, and upon conviction shall be fined not less than twenty-five nor more than one hundred dollars, or imprisonment for not less than twenty nor more than sixty days for each offense.

§ 11. No certificate issued by any veterinary society after the passage of this Act shall be valid authority to practice veterinary medicine or surgery or entitle the holder thereof to register for such purpose.

§ 12. All Acts or parts of Acts inconsistent with the provisions of this Act are hereby repealed.

§ 13. This Act shall take effect immediately.

To Hon. Chas. S. Baker :

I send you this pamphlet, containing two bills in regard to regulating the practice of veterinary medicine and surgery in this State. The first of which was introduced to the Legislature some days ago, by Mr. Earl. This bill originated in the New York State Veterinary Society, and is in some respects, the product of a compromise between former warring veterinary factions.

The veterinarians belonging to the State society seem to have two chief objects in view. The first is to exterminate old practitioners, even those who have practised ten years or more ; unless they can pass an examination by a Board of Censors, to be appointed by two certain societies.

This bill does not guarantee that an impartial practical examination will be given, as it does not require that a record of the questions and answers shall be kept ; so that if any unfairness is practised in reference to granting certificates, it cannot be known to any but the Examining Board, and the persons examined. No court can in any such case, take cognizance of such injustice, as there will be no record to go by. Their decisions in regard to granting certificates of qualification or withholding them, will be final, though they may be arbitrary and unjust.

The New York city societies seem to think that all authority and control over the practice of veterinary medicine and surgery, should be placed by law in their hands to be wielded by them as they may see fit.

They seem perfectly oblivious of the fact that in the rural districts throughout the State scarcely a single veterinarian who is a graduate of some college can be found. They do not even seem aware of the fact that the veterinary profession is still in its infancy, and that it has not as yet taken possession of fields over which it proposes to obtain complete control. What are the owners of domestic animals in the rural district to do, when they have one sick or in distress, if you deprive them of their ungraduated practitioners ?

If graduated practitioners were already in possession of the fields of practice throughout the rural district of the State, as well as in cities, they might with some show of reason claim that

exclusive jurisdiction should be given them by the law-making power of the State.

The principal leaders in this crusade against old and non-graduated practitioners, are those who are directly interested in the profits and emoluments arising from conducting veterinary colleges. Taking the foregoing into consideration, we are forced to conclude that their second object is to bring shekels to the coffers of these colleges.

The bill proposed by them cannot be considered in the interest of owners or animals, by any process of reasoning that can be brought to bear upon it.

There are many graduates whose diplomas are a shield to their ignorance, while on the other hand, many of the non-graduates are thoroughly practical and efficient practitioners, and are highly esteemed by their accustomed employers.

The Rochester Veterinary Medical Association, a legally incorporated society, proposes the second bill as an amendment to or substitute for the first.

Your attention is asked to a careful reading of both, so that you may be enabled to fairly compare their merits. You will observe that the bill proposed by our society does not ask that practitioners of seven years experience shall be stamped out, if they cannot pass an examination by prejudiced censors.

It proposes to allow them to register and continue their accustomed practice undisturbed. It is in favor of keeping the avenues leading to veterinary proficiency and distinction open to the poor as well as the rich. Therefore it proposes in this bill that the Regents of the University of the State of New York appoint one or more boards of examiners to examine applicants, and to grant diplomas to those found worthy of them.

This bill is in substance the same as that now in full force, in reference to conferring doctorate degrees in medicine.

Under the provisions of this bill, a person who has qualified himself by study, may obtain a diploma though he may be poor, which he could not do, should he be compelled to go through two or three terms, of five or six months each, at a veterinary college.

If the right to practice is hereafter to be closed to all except

graduates, then some such facilities as our bill proposes should be given by law. The people will have confidence in a board of examiners appointed by the Regents of the University.

The bill proposed by Mr. Earl, should it pass, will be an obnoxious specimen of class legislation. The bill proposed by our society, although it asks that, hereafter, a person commencing to practice shall show by an examination that he is qualified, does not ask that he be compelled to attend two or three long and expensive courses of lectures in a large city, but opens a way for him to obtain a certificate of the knowledge he may have by passing an examination before a Board of Censors appointed by the University of the State, the highest and best authority for conferring diplomas, thus enabling one to utilize knowledge he possesses, even though he may not command sufficient means to attend the curriculum of a college.

The members of this society are constituents of yours, and as such, respectfully ask you to introduce this bill to the Legislature, as an amendment to the Earl bill, and if you approve of its provisions, to advocate its passage.

Truly yours,

FRANK H. PARSONS, D.V.S.

Secretary of the Rochester Veterinary Medical Association.

By order of committee :

ALBERT DRINKWATER, V.S., *Chairman*

WILLIAM CUTTING, V.S.

J. C. MCKENZIE, V.S.

AN ACT TO INCORPORATE A SOCIETY FOR THE PROMOTION OF VETERINARY SCIENCE AND ART IN THE STATE OF NEW JERSEY.

Section 1. *Be it enacted*, That any number of persons, not less than ten, who have been and are now connected with the Veterinary Medical Association of New Jersey, desirous of promoting the interests of veterinary science and practice in this State, may associate themselves together for that purpose, adopt a corporate name and make a certificate in writing of their organization, with the names and residences of the persons making the

certificate, and upon so doing shall be and become the New Jersey State Veterinary Society.

§ 2. *Be it enacted*, That said society shall for its first year have the same officers as are now the officers of the Veterinary Medical Association of New Jersey, shall adopt such Constitution and By-Laws and such rules and regulations as to its officers, its modes of business, and its conditions of membership as a majority of all members of said society shall approve of.

§ 3. *Be it enacted*, That no person not at present a member of the Veterinary Medical Association of New Jersey shall become a member of the New Jersey State Veterinary Society, unless he shall have received a veterinary or medical diploma or certificate from some incorporated medical or veterinary college or school, or have been examined by a Board of Examiners appointed by this society, and declared competent for veterinary practice in this State; and said Society shall have full authority to judge of their admission, or of their continuance as members.

§ 4. *Be it enacted*, That the Society hereby incorporated shall have power to use a seal of its incorporation, and to own property to an amount not exceeding one thousand dollars, and in the name of its President and Secretary to sue and be sued.

CORRESPONDENCE.

IS HE A FRAUD.

CINCINNATI, March 18th.

Prof. Liautard, Editor American Veterinary Review:

DEAR SIR: On March 7th an individual styling himself Prof. S. G. Ginner, M.D., called at my office personally and handed to me the following circular:

PALACE HOTEL, CINCINNATI, O., March 3, 1885.

MY DEAR DOCTOR: The Trustees of the Bellevue Medical College having decided to incorporate a Veterinary Department, and to fill the Faculty from the list of those advanced graduates of the Ontario Veterinary College who are or may become (on or

before the first day of April, 1885) members of the Alumni Society.

Therefore it was resolved that a notice should be mailed to those gentlemen whose qualifications are known.

Each member of the Faculty, in the Veterinary Department, will receive a yearly salary of twelve hundred (\$1,200) dollars, payable monthly, beginning from the date of their appointment, and will be required to attend the college during the regular sessions.

The college will also confer the honorary degree of Doctor of Medicine (M.D.) upon all the members of the faculty and Alumni Society. Respectfully,

S. G. GINNER, M.D.,

Registrar of the Faculty.

Post-office address, Palace Hotel, Cincinnati, O.

To Prof. S. C. Ginner, M.D.,

Registrar of the Bellevue Medical College :

DEAR SIR: I beg to present my formal application for membership in the Alumni Society of which you are president, and to enclose my life membership fee of \$50.00. For my references I refer you to the officers of the Ontario Veterinary College, of which I am a legal graduate, Class of 18

Respectfully,

Signature in full,

V. C.

P. O. address,

NOTE.—This form of application, together with the sum of fifty dollars, must be forwarded to the President of the Alumni Society, who will report thereon. If the application is not accepted, the money will be returned.

The names of rejected candidates will not be published, and the trustees have carefully considered the qualification of all those who will receive invitations.

Please fill out the above form and return as directed.

Canadian money will be accepted.

Address

PROF. S. G. GINNER, M.D.,

President Alumni Society,

Palace Hotel, Cincinnati, Ohio.

This circular does not fully explain his scheme. His true motive, as I am aware, is to sell an M.D. diploma, which he carries with him, printed in Latin on parchment with the seal and two signatures of the faculty (presumably of a mythical college) affixed. All that remained to complete this bogus document was the filling out of a vacant space thereon, with an inscription of the name of the would-be purchaser, in consideration of the payment of fifty dollars.

The vender represented it to be a regular M.D. diploma, and that any individual holding it has a legal privilege of practicing human medicine in any State of the Union, irrespective of his qualifications.

He is careful, however, to say that he does not sell the diploma, but presents it to any individual who will give fifty dollars to become a member of the Alumni Association of the Bellevue Medical College of Boston, Mass., so that they may be enabled to establish a veterinary department in connection with the college.

He has been working his scheme upon others, to my knowledge, but could not learn that he met with any success. One of the veterinarians thus approached informed me that after obtaining the confidence of the professor, he offered to accept fifteen dollars on account, trusting him to pay the balance at will. He offered him the agency of this district, to sell without discrimination his worthless documents to any purchaser he could find. I have often heard of ways and means whereby diplomas could be bought from dishonorable institutions without attending the lectures, but such base impudence of an individual to travel about the country peddling diplomas under the pretences that this man does, I could not believe, until I had occasion to witness the fact by an attempt made to victimize me.

I have no doubt that upon a careful scrutiny of this worthless sheet we would find that the wording is of such a character as to exempt him from criminal proceedings, regarding the sale of bogus medical diplomas. Something ought to be done, however, to protect the veterinary fraternity from such impostors, especially when they practice their deception in connection with the pretence of advancing veterinary education.

By publishing this communication in the AMERICAN VETERINARY REVIEW, we can at least give the so-called professor a free advertisement, which may suffice to arrest his swindling operations.

Very respectfully yours,

J. C. MEYER, JR.

PRESENTATION.

At the regular semi-weekly meeting of the Veterinary Medical Society in connection with the Ontario Veterinary College, held on Thursday night, February 26, the students presented to Prof. Smith, V.S., the principal and founder of the college, a picture of the senior graduating class of 1884-'5. The picture is four feet square, with a beautiful gilt frame. On behalf of the students Mr. H. Piatt, St. Louis, Missouri, and Mr. D. E. McLean, Pilot Mound, Manitoba, presented the picture. Mr. G. McGillivray, Whitby, Ontario, read the address as follows:

To Prof. Smith, M.R.C.V.S., Principal of the Ontario Veterinary College.

DEAR SIR: Since the commencement of our college course, the greatest of harmony has existed among us as students. Each of us being desirous to obtain some mementos of our college days, decided that a photo of the class would be the most appropriate souvenir, and as a result, obtained this picture, which we decided to present you as an appreciation of the hearty and sincere interest you take in our welfare and the many kindnesses extended to us during our college course.

We take pleasure in presenting you this picture in behalf of the students whose photos adorn this board.

Hoping there is no shadow on it, the original of which shall ever prove otherwise than a credit to the Ontario Veterinary College, of which you are the worthy principal.

Signed in behalf of the senior class.

G. MCGILLIVRAY,	} Committee.
D. E. MCLEAN,	
HARRY PIATT.	

TORONTO, February 26th, 1885.

The professor replied in an able and appropriate speech.

VETERINARY PROSECUTION.

In January, 1885, the Secretary-Treasurer of the Board of Agriculture was informed that Stephen Knight, of Portage la Prairie, had been practising as a veterinary surgeon without being legally qualified as such. Advertisements had been inserted by him in two papers published at Portage la Prairie, the *Tribune-Review* and the *Manitoba Liberal*. The advertisement in the latter paper read as follows: "Stephen Knight, Farrier, etc., etc. All diseases of horses attended to with care and despatch. Satisfaction guaranteed. Give me a call and be convinced. Office at Bellview Hotel, Saskatchewan avenue, Portage la Prairie." In the information furnished it was stated that Knight had offered to cure a lame horse for Mr. W. J. M. Pratt for \$25; that Mr. Pratt, believing Knight to be Mr. J. G. Rutherford, V.S., of Portage la Prairie, had accept the offer; and that Knight went on with the treatment, which, however, having failed he did not receive any remuneration. It also stated that he agreed to take a blood spavin off a horse owned by Mr. James Cuthbert for \$10. The Secretary-Treasurer therefore instructed the Chief of Police of Portage la Prairie to prosecute him, and the instructions were carried out by three informations being sworn to, containing the following charges:

"1. That not having his name registered on the books of the Secretary-Treasurer of the Board of Agriculture, as a veterinary surgeon, he unlawfully did prescribe and administer medicine for a certain animal of one James Cuthbert, for hire, gain, and the hope of payment and reward. 2. That not having his name registered on the books of the Secretary-Treasurer of the Board of Agriculture, as a veterinary surgeon, he unlawfully did prescribe and administer medicine for a certain animal of one Walter J. M. Pratt, for hire, gain, and the hope of payment and reward. 3. That not being registered on the books of the Secretary-Treasurer of the Board of Agriculture, as a veterinary surgeon, he unlawfully did practice as a veterinary surgeon or farrier." The case come up for hearing on January 14, at the

Town Council Chamber, Portage la Prairie, before Mr. E. McDonald, J.P., when on the information quoted under the third heading above having been read, the defendant pleaded guilty and was fined \$20, and \$5 costs. This being considered a sufficient example to deter him from continuing his illegal practice and others from similarly evading the law, the other two charges were not proceeded with.

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY SOCIETY.

The annual meeting of the New York State Veterinary Society was held at the American Veterinary College, on Tuesday, March 10. The Vice-President, Dr. R. A. McLean, in the chair.

Members present were, Drs. Robertson, Burden, Coates, Cattnach, L. McLean, Burget, Johnson, R. A. McLean, Pendry, Bretherton, Denslow, Ryder, Cuff and W. H. Jackson.

Minutes of last meeting were read and adopted.

There being no paper for the evening the Chair called for the reports of the secretary and treasurer, which were read. The former reviewed the work of the Society for the past year at considerable length, showing that much had been done for the common interests of the veterinary profession in the State and elsewhere. That its fifty-two active members were working in perfect harmony, and with one cause, viz: The advancement of their profession. The report, on motion, was ordered to be received and filed, and a vote of thanks was extended the secretary, for his faithful performance of the duties.

The treasurer's report was then read, which showed the balance brought forward, with the income for the year, amounted to \$247.75, and the expenses \$222.37, leaving a balance of \$25.38. On motion the report was ordered to be received and filed.

The Board of Censors reported in favor of two of the three applications for membership referred to them, viz: F. J. Henshaw, D.V.S., and Jas. S. Cattnach, V.S. The report was acted on, and resulted in both gentlemen being duly elected.

The Prize Committee reported that six candidates appeared before them, to compete for the gold medal given by the Society to the graduate who passed the best practical examination, and the prize had been awarded to Julius W. Scheibler, graduate of the American Veterinary College. D. J. O'Sullivan was honorably mentioned.

The Committee on Legislative Law, through their chairman, Dr. R. A. McLean, reported that a delegation, composed of members of the different veterinary organizations of the State, had visited Albany in the interest of the bill now before the Assembly, Drs. Coates, Pendry and himself representing the

New York State Veterinary Society. They found the bill was in the hands of the Public Health Committee, who, through the kindness of its chairman, Dr. Cartwright, gave them a hearing the same day they reached Albany. Mr. Marsh, the legal representative of the veterinary organizations of the State for the bill, introduced the delegation to the committee, after strongly and forcibly advocating the same. Drs. Pendry, R. Finlay and himself also addressed them, advancing arguments in favor of the passing of an act to recognize and protect the veterinary profession in the State.

The delegation were well and kindly received by the committee. Many of the gentlemen addressed showed, by the questions they put to members of the delegation, that they were interested in the question under discussion before them. The bill was referred to a sub-committee to redraft, as it was thought somewhat too stringent to pass the Assembly. That sub-committee had reported back to their committee a bill that could not possibly meet with any opposition. It certainly was not as strong a bill as was desirable, but far better than none; it legally recognized the veterinary profession henceforth, which was one grand point gained. The provisions of the bill, as reported by the sub-committee, were, that no person should be allowed to practice veterinary surgery or medicine in any city of this State, having a population of 15,000, or upwards, unless he be registered in the county clerk's office of the county in which he shall reside. And the qualifications necessary to registration, were, that he be a graduate of a legally chartered or incorporated veterinary college, or shall hold a certificate of qualification from a legally incorporated veterinary society, or shall have practiced veterinary surgery or medicine for not less than five years preceding the passing of the act, an affidavit to that effect to be proof of the same. There was every chance of the bill passing in that shape, but it was still necessary that every member should do all he personally could to help the bill through. It was the best that could be done now, and would, beyond a doubt, lead to something better.

Dr. Pendry, in moving that the report be received, said the profession had been favored with more consideration than he expected it would, and that the bill as reported by the sub-committee ought to be accepted, but he held that whatever was done should affect the whole State if possible.

Dr. L. McLean thought the profession was on the downward path, when it accepted such a bill, and held that it should be opposed by the Society. If an affidavit was the only proof of the party having been in practice for five years, it was no proof to be satisfied with. He considered too, the term "practice" was too wide.

Dr. Coates said it was quite easy to ask, but quite another thing to succeed. Since his return from Albany, he had received letters, saying there was opposition to the bill.

The motion to receive the report was carried, with a vote of thanks.

On the call for nominations for new members, the following names were proposed: M. Weise, D.V.S.; Haru Taka Yokura, D.V.S.; Wm. Dimond, D.V.S.; Theo. Birdsall, D.V.S.; Geo. F. Bower, D.V.S.; John Lindsay, D.V.S., and E. Lowe, D.V. S. All of which were referred to the Board of Censors.

Dr. C. C. Cattanch moved that the privilege of the floor be extended to Dr. R. W. Finlay, the President of the New York State Veterinary Medical Association, who was present with many members of that organization.

Dr. L. McLean moved, and Dr. Pendry seconded, that the order of business laid down in the printed By-Laws be followed, and that the election of officers be proceeded with. After some further discussion, the motion of Dr. Cattanaeh was carried, when Dr. Finlay addressed the meeting, stating the subject of amalgamation of the two State organizations had, for a long time, been uppermost in their minds, and at last, so far as they were concerned, the idea had been brought to a point, they having at their last meeting, by a two-thirds vote, voted to disband and join the New York State Veterinary Society. They had duly filed with the county clerk a notice of the disorganization of the New York State Veterinary Medical Association.

Dr. Pendry said while there was no doubt that the members of the late association had acted in good faith, and had a right to expect that the Society would do the same, he could not see how the Constitution and By-Laws could be ignored. They provided that all applications for membership should be referred to the Board of Censors, who should report upon the same at the next subsequent meeting; a ballot would then be taken, and election follow in the usual way. During the discussion that followed, the question was asked what was to be done with the charter and seal of the late Association, and also held by some, that it was not a matter of admission of new members.

On motion, Drs. Dixon, Robertson and Johnson were appointed a committee of three to arrange and consummate an amalgamation if possible.

The election of officers was then proceeded with, with the following result:

President, Dr. R. A. McLean; First Vice-President, Dr. J. W. Dixon; Second Vice-President, Dr. J. W. Coates; Secretary and Treasurer, Dr. W. H. Pendry; Board of Censors, Prof. A. Liautard, (chairman), Prof. Jas. L. Robertson, Drs. L. McLean, S. K. Johnson and C. C. Cattanaeh; Trustees, Drs. C. Burden, L. McLean and C. W. Bretherton.

Before the close of the meeting the Committee on Amalgamation reported favorably, that they had received proof that the New York State Veterinary Medical Association had been legally disbanded, also that their personal effects were only the seal and charter, and that there was no indebtedness. They recommended that a special meeting be held two weeks from that date, to consummate the amalgamation. A motion to that effect was carried.

The newly elected President then thanked those present for the honor they had conferred on him and appointed as essayists for the next meeting, Drs. R. Kay and W. E. Cuff.

Meeting then adjourned.

W. H. PENDRY, D.V.S., *Secretary*.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

The regular semi-annual meeting of this Association was held at Young's Hotel, in the City of Boston, on Tuesday, March 17, at 10 A.M.

The Comitia Minora recommended for admission the following gentlemen: Drs. Otto, Walton, Agersborg, Hawk, Dyer, Humphries and W. H. Rowland.

Drs. Raynor and Drake are to be notified by secretary of the requirements of admission.

In the general meeting, after roll call, reading of minutes, admission of new members, etc., the paper presented at last meeting by Dr. Dixon on the subject of an eastern and western division of the Association was considered. Drs. Robertson, Hoskins and Saunders were appointed a committee to report at next meeting.

Standing committees had no reports to make, and the matter was left over until annual meeting in September.

Several gentlemen were proposed for membership.

Dr. Dixon suggested the propriety of appointing correspondents in each State to assist the secretary in his work, and so further the general interests of the Society. Such appointments were left to the president and secretary.

Communications, etc., were then read by the secretary.

Prof. Lyman read some interesting notes on the subject of intra-tracheal and intra-venous medication. This subject was discussed by a number of gentlemen.

The *seeming* contagiousness of polyuria was also discussed.

Dr. Peabody read a very timely paper on the time *wasted* at many of our meetings over trivial points, and also the disposition of some members to occupy the floor to the exclusion of many others. It was decided that in the future the President was to check such action and favor short speeches from all members.

Dr. Miller presented a clamp used to crush the cord, and advocated its use in castration of young animals.

The best and easiest method of destroying horses was also discussed.

Among other matters for discussion were poisoning by ensilage, cerebro-spinal meningitis, nymphomania, tuberculosis, paralysis of antero-femoral nerve following azoturia, etc., etc.

The Society then adjourned, after one of the best sessions ever held, to meet at the call of Comitia Minora, on the third Tuesday of September next.

C. B. MICHENER, *Secretary*.

CONNECTICUT VETERINARY MEDICAL SOCIETY.

The above society met in New Haven, on Tuesday, February 3d, the President, Dr. W. J. Sullivan, in the chair. Present—Drs. F. E. Rice, E. C. Ross, Nathan Tibbals, W. K. Lewis and the Secretary.

The president read a paper on "Swine Plague or Hog Cholera," and said that owing to the prevalence of the disease in this State, during the last three months, he had chosen this as his subject; knowing that many of the members present must have been called upon for advice, their familiarity with the disease would, he hoped, enable them to suggest something definite as to the best course to pursue when called upon for assistance.

He believed that slaughter of the whole herd, burning of the carcasses, and thorough disinfection was the only way to thoroughly stamp out the disease.

He considered the present laws of the State in regard to contagious diseases, were very meagre and of little use.

In the discussion which followed, Dr. Rice believed as the essayist, that slaughter of the whole herd and burning the carcasses was the only way to get rid of the scourage.

He also spoke of two bills pending in the Legislature, in regard to contagious diseases, and intimated that in all probability members of the society would be called upon to make suggestions in regard to the framing of said bills.

It was the general opinion that slaughtering, etc., was the only way to stamp out the disease, but that under the existing laws of the State it was impossible to successfully cope with contagious diseases.

Thos. Bland spoke of having visited one herd of over three hundred; sixty having died before his arrival. About two hundred that appeared healthy were separated from the diseased and placed in a pen some thirty rods away from the infected one. Chloride of lime and carbolic acid were freely distributed, and sulphite of soda and carbolic acid given daily in their food. Three showing symptoms of the disease the following day, were removed. The remainder did not become affected.

The following officers were unanimously elected for the ensuing year: President, Dr. W. J. Sullivan; 1st Vice-President, Dr. F. E. Rice; 2d Vice-President, Dr. E. C. Ross; Recording and Corresponding Secretary, Thos. Bland; Treasurer, Nathan Tibbals. Board of Censors: Chairman, Dr. W. K. Lewis, with Drs. Tibbals, Rice, Ross and E. A. McLellan.

The President, Dr. W. J. Sullivan, in a very able address thanked the members for the honor they conferred on him by his re-election. Very able remarks were also made by Drs. Rice and Ross, and all the members expressed themselves as well pleased with the last year's work of the society. Dr. Ross is to read a paper at the next meeting, to be held April 7th.

THOMAS BLAND, *Secretary*.

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The March meeting of the above Association was held at 1566 Race street, Philadelphia. The President called the meeting to order at 8:35 P.M.

Members present—Drs. Miller, Rodgers, Zuill, Hoskins and Goentner.

The minutes of the previous meeting were read and approved.

The Committee on Publication reported progress. By the suggestion of Dr. Zuill, Dr. Hoskins will constitute a member of the Publication Committee in the place of Dr. Zuill, who will go abroad for some months.

Communication read from Dr. Ward B. Rowland.

Remarks by Drs. Rodgers and Hoskins in regard to the negligence of the appointed essayests, and urged the faithful performance of appointments.

The president directed the secretary to inform delinquents of the existence of a By-Law referring to the failure to be present at the regular meeting or the offering of excuses.

Dr. Rodgers reported a case of retroversion of the bladder in a cow.

After adjournment Dr. Zuill did the handsome act by unhooking his wine closet, this being the last regular meeting before he, Dr. Zuill, goes abroad.

CHAS. T. GOENTNER.

NEWS AND SUNDRIES.

TRANSMISSIBILITY OF TUBERCULOSIS BY VACCINE LYMPH.

The question of the transmissibility or non-transmissibility of tuberculosis by vaccine lymph was lately brought before the Medical Society of Hospitals, when Dr. Strauss gave an account of the researches made by him during the last two years, in view of deciding the above point. It will be recollected that, in 1881, M. Toussaint, in a note communicated to the Academy of Sciences, stated that he vaccinated a phthisical cow from a healthy child; he afterward inoculated a pig and a rabbit from the vaccine pimples of the phthisical cow, and both animals were attacked with tuberculosis, but Koch's bacillus was not found in the lymph. Dr. Strauss repeated these experiments, and he stated that in the space of eighteen months five phthisical patients were successfully re-vaccinated in his hospital wards, but no bacilli were found in the vaccine pimples. Inoculations from the vaccine lymph of phthisical patients were practiced in the anterior chamber of the eyes of rabbits, but they also afforded absolutely negative results. These five negative cases are confirmative of the four cases related by M. Lothar Meyer, of Berlin; and M. Chauveau, of Lyons, following in the same line of researches, arrived at the same negative result in twenty-two cases that he had observed. Dr. Vaillard stated that he had inoculated the vaccine lymph of certain tuberculous patients into animals, but with the same negative results as those obtained by Dr. Strauss. There would, therefore, be twenty-six negative cases opposed to the only positive one of M. Toussaint, and Dr. Strauss considers himself justified in concluding that tuberculosis is not transmissible by vaccination. Moreover, the age of the vaccine subjects would be sufficient guarantee. As for heifers or calves, these are still more rarely tuberculous than children.—*Medical Record*.

EXCHANGES, ETC., RECEIVED.

FOREIGN.—Revue für Thierheilkunde und Thierzucht, Revue d'Hygiène, Gazette Medicale, Echo Veterinaire, Presse Veterinaire, Recueil de Medecine

- Veterinaire, Clinica Veterinaria, Annales de Medecine Veterinaires, Quarterly Journal of Veterinary Science in India, Veterinary Journal, Veterinarian.
- HOME.—Ohio Farmer, Practical Farmer, Prairie Farmer, Country Gentlemen, American Agriculturist, National Live Stock Journal, Medical Record, New York Medical Journal, Turf, Field and Farm, Therapeutic Gazette, Spirit of the Times.
- JOURNALS.—Home and Farm, Ky.; Western Rural, Health and Home, Farmers' Review, Kentucky Stock Farm, &c., &c.
- PAMPHLETS AND BOOKS.—Notices Helminthologiques, by M. Railliet; Trotting Stock, Stony Ford Stud; Typhoid Fever in the Young, by A. Jacobi, M.D.; Proceedings of the First National Convention of Cattlemen; History of the Morgan Stock; Methods of Studying the Physiological Action of Drugs, by Dr. R. M. Smith; Die Resorption des Zuckers und des Eiveisses in Magen, by the same; The Thormic Phenomena in Contraction of Mammalian Muscles, by the same.
- CORRESPONDENCE.—W. Pendry, J. D. Hopkins, J. C. Meyer, Jr., C. B. Michener, C. T. Goentner, Thomas Bland, S. K. Johnson, J. Gerth, J. J. Vanderee, Geo. C. Faville, C. H. Peabody, W. H. Gribble.

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A Monthly Journal of Veterinary Medicine and Surgery.

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All communications and books for review to be addressed to the Editor, 141 West 54th Street, New York. Anonymous letters and articles will not be inserted. Morbid specimens may be forwarded to the Editor, and with the consent of the owner, will be registered and placed in the collection of the American Veterinary College.

Post Office orders to be made payable to A. LIAUTARD, Editor, through Station G. New York.

As we go to press on the 20th of the month, papers for publication ought to reach us before or on that date.

AMERICAN VETERINARY REVIEW,

MAY, 1885.

EDITORIAL.

PROGRESS OF THE PAST—AND IN THE FUTURE.

The progress that veterinary science has made in the United States during the last twenty years is enormous. Veterinary schools have, little by little, been established in such a manner that, at first limited merely to the Eastern States—we might almost say to New York—they were gradually found in other parts of the country, and, as can be seen by the reports that we publish to-day, our confrere and friend, Prof. Lyford, has succeeded in establishing one as far west as Minnesota. There are now in the United States a fair number of veterinary colleges, where instruction in that specialty of medicine can be obtained.

As natural consequences of these schools, regular graduates were soon met in almost every large city in the Union, and veterinary societies were formed. At first sociable gatherings of a few, they soon became scientific organizations—State incorporated bodies, in which subjects of interest to the profession are discussed, including legislation relating to the protection of veterinary practice.

To crown the advancement thus made, and to fill a want much felt, means of correspondence were established between the colleges, the individual members of the profession, and the various

State officials and societies, and veterinary journals were issued; weeklies, monthlies and quarterlies have for the last ten years been published, some of which have had a successful career, while others have been obliged to stop for various reasons.

Who, twenty years ago, would have thought of the great change in the profession—in its elevation in public estimation, which, from the low grade of the vulgar and ignorant cow leech, has raised the veterinarians to the position of gentlemen of education, worthy of public respect, of State position, of General Governmental trust?

In going back to the start, it cannot be ignored that by the personal and private efforts of a few the first impulse was given; and if these great changes, which we have just considered, have been obtained and can be traced back to those private individuals, what would have been the results if assistance had been given by Governmental support, as it is in Europe?

We have had appropriations of all kinds, for many purposes, with some good results, but what has the veterinary profession gained thereby? A great deal of the money that has been spent would have been better employed had it been secured for the assistance of some of the institutions already mentioned, or better still, for the establishment of a national veterinary school, where the graduates of the various State institutions could have received a post graduate education, that limited means have not permitted these private undertakings to give.

Much has already been said and written about a national veterinary institute; but is the subject not worthy of attention, and would it not be wise for the members of the profession to try to obtain some action in that direction? Has not the time come when the different colleges in the Union could work together and establish, if not a post graduate school of veterinary medicine, at least a national board of examiners, who would render the examination equal for all candidates?

This is another step of progress to be made, and one which we had hoped would have been realized much earlier than those which have been made in the last quarter of a century.



THE MEDAL TO MR. H. BOULEY.

The veterinary profession of America was made acquainted, through the pages of the *REVIEW*, with the mode adopted by veterinarians in France to commemorate the event of the election of Mr. H. Bouley to the presidency of the highest scientific body in the world, the Academie des Sciences, of Paris.

It was proposed to have a large medal made and presented to the newly elected president as a token of friendship, of high esteem and great admiration, from his friends and colleagues and students. A call was made to veterinarians all over the world, through the veterinary journals, which received a ready response.

The committee having obtained the necessary funds, succeeded easily in their undertaking, and copies of the medal, of a smaller size, have been sent to those who desired to receive it.

We are pleased to be able to present our readers with a drawing of it. On one side the likeness of the president, with his name around it, on the other an allegory representing the process of vaccination, of which he has been so able an advocate, with a Latin motto: *ARTE NOVA PASTOR PECORUM CONTAGIA VINCIT, GRATUM OPUS AGRICOLIS*, and below the titles connecting him with the veterinary schools, the Legion d'Honneur and the Institute.

If one bears in mind that all these honors have been conferred



on a gentleman who claims no other title than that of veterinarian—who to veterinary science attributes all the honorable positions he has been called upon to fill, too modestly placing it in front of his great talents and ability—can there remain any doubt as to the value and importance of our calling, and to the truth and proper application of the motto so commonly used in relation to it, "*Second to None*"?

POLITICIANS BETTER THAN VETERINARIANS.

The value and services of educated veterinarians has made much progress in public estimation, and also in that of the State and the General Governments. It seems, however, that some city officials have not yet reached that point where, for the benefit of the general health of the people, or for the saving of the people's money, they would find it advantageous to employ, in preference to the educated veterinarian, the (in many instances) ignorant politician, ex-police officer, or retired butcher.

While the Health Department of the city of Brooklyn has its veterinary surgeons and its inspectors of meat, regular graduates, and the Fire Department of the same city employs an educated veterinarian to look after its live stock, the great metropolis of New York remains far behind her sister city, having no veterinarian in her long list of officers. A glance at the published extract of Dr. E. Hanshaw, Jr's, report shows, however, that improvements are yet possible even in this well regulated public department.

ORIGINAL ARTICLES.

AMERICAN VETERINARY HOSPITAL.

Practical Department of the American Veterinary College.

TENTH ANNUAL REPORT TO THE BOARD OF TRUSTEES.

GENTLEMEN:

Once again it is my pleasant duty to present you with a report, which will, I hope, be satisfactory to the most sanguine, and which will impress the public with the value of the work done in the Hospital Department of the American Veterinary College. In my last report I stated that the number of our patients had exceeded those of previous years. To-day I can still make the same statement. The figures show that twenty-one thousand three hundred and one animals were treated inside of our walls during the past year. These figures compare advantageously with the clinical facilities of many of the older European schools, and surpasses the record of any other veterinary institution on this continent.

Are those figures the highest to which we can pretend to reach? I do not believe it. If you glance over the figures representing the work of 1883, 1884, 1885, you will observe that they are nearly the same. This is easily accounted for. They represent the total of patients that could be accommodated. Our clinics, our operations, our list of boarding patients have remained nearly the same. Why? On account of want of accommodations. Clinical material has often been discharged for want of accommodations; operations declined for want of facilities; boarding patients refused admission for want of room. These conditions apply to all animals—horses, dogs, etc.

Do not these facts show the imperative necessity of providing at the earliest time these greatly needed accommodations, this much wanted room.

The following is the report of cases during the entire ten years. In the year ending

March 10th, 1876,	there were entered in the clinical book.....	731	animals.
" 1877,	" " " "	1,071	"
" 1878,	" " " "	1,478	"
" 1879,	" " " "	1,896	"
" 1880,	" " " "	2,442	"
" 1881,	" " " "	2,585	"
" 1882,	" " " "	3,182	"
" 1883,	" " " "	2,679	"
" 1884,	" " " "	2,561	"
" 1885,	" " " "	2,686	"
Total.....		21,301	"

Table of Number of Patients Treated Monthly at the Hospital During Year Ending March 1, 1885.

YEAR AND MONTH.	Total Number of Animals.	Number of Horses.	Number of Dogs.	Number of Other Animals.	Number of Operations.	Number of Horses Examined for Soundness.	Total Number of Deaths.	Total Number of Animals Destroyed.	Animals affected with Contagious Diseases.	Number of Post Mortem Examinations.
1884, March.....	265	240	20	5	157	21	1	3	2	10
“ April	331	281	45	5	174	45	...	4	4	6
“ May	308	275	29	4	114	73	2	...	3	5
“ June.....	242	214	23	5	82	52	1	...	4	4
“ July	179	151	27	1	77	14	1	...	2	3
“ August.....	205	181	21	3	107	13	4	...	2	6
“ September.	213	182	29	2	89	23	5	1	3	6
“ October....	245	203	34	5	81	55	2	1	5	9
“ November.	206	172	30	4	72	44	...	2	4	2
“ December.	179	147	29	3	70	24	3	1	5	9
1885, January....	173	142	26	7	75	22	1	...	1	6
“ February...	140	106	32	2	50	16	...	3	5	3
Total.....	2,686	2,294	345	46	1,148	403	20	15	40	69

Monthly Classification by Organs treated of Patients in Hospital during the year ending March 1, 1885.

YEAR AND MONTH.	Locomo- tion.	Diges- tion.	Respira- tion.	Innerva- tion.	Circula- tion.	Genito- Urinary	Special Senses.	Abnormal Growths.	Ex. Lo.	Clinics.	Clinical Opera- tions.
1884—March	109	31	17	6	13	6	44	18	21	46	27
April	142	27	25	9	13	6	48	16	45	40	18
May	104	32	22	10	10	11	36	17	73	36	11
June	104	25	14	5	10	3	15	14	52	36	17
July	79	27	16	6	5	4	22	6	14	43	12
August	87	29	10	12	7	5	25	17	13	62	32
September.....	89	39	15	8	6	5	8	20	23	41	18
October	87	25	20	11	10	5	23	19	55	42	9
November	78	15	12	9	8	10	18	12	44	35	15
December.....	54	28	12	19	8	4	15	15	24	44	19
1885—January	50	25	17	9	9	9	23	9	22	40	19
February	46	18	7	6	10	4	19	14	16	30	8
Total.....	1,009	324	177	120	109	72	296	177	402	495	205

Comparative Table of Patients Treated at the Hospital During the past Ten Years

YEARS.	Total Number of Animals.	Number of Horses.	Number of Dogs.	Other Animals.	Number of Operations.	Horses Examined for Soundness.	Total Number of Deaths.	Total Number of Animals Destroyed.	Animals Affected with Con- tagious Dis- eases.	Number of Post Mortem Examina- tions.
1875-'76.....	731	710	20	1	116	123	13	21	11	44
1876-'77.....	1,061	984	63	14	210	193	30	19	6	53
1877-'78.....	1,478	1,413	50	15	324	238	30	28	13	80
1878-'79.....	1,846	1,753	95	48	385	298	22	24	24	95
1879-'80.....	2,442	2,203	170	69	597	325	24	12	11	61
1880-'81.....	2,585	2,408	146	31	897	389	31	14	13	53
1881-'82.....	3,182	2,844	291	50	1,304	459	48	14	26	78
1882-'83.....	2,679	2,350	308	21	987	400	31	11	56	55
1883-'84.....	2,561	2,159	303	99	956	415	15	15	68	82
1884-'85.....	2,686	2,295	345	46	1,148	402	20	15	40	69

CLASSIFICATION.

The number of patients suffering with diseases for which treatment was sought and rendered during the last ten years may be classified as follows:

Lesions of the Organs of Locomotion	1,009
“ “ “ Digestion	324
“ “ “ Respiration.....	177
“ “ “ Innervation.....	120
“ “ “ Circulation	109
“ “ Genital Apparatus.....	92
“ “ Special Senses.....	296
Cases of Abnormal Growths.....	177
Examined for Soundness.....	402

RESULTS.

The mortality of the whole number treated has remained this year about the same as in the preceding—viz., about *one per cent.*

The mortality may be further represented as follows:

Diseases of the Apparatus of Locomotion.....	5
“ “ “ Digestion.....	9
“ “ “ Respiration.....	3
“ “ “ Innervation.....	7
“ “ “ Circulation	4
“ “ Genito-Urinary Organs.....	4
“ “ Special Senses.....	—
Cases of Abnormal Growths.....	—

Post mortem examinations were held in all these cases, for purposes of instruction in pathological anatomy, besides those made on other animals brought to the hospital after death for that purpose.

The results of the treatment during the ten years of our active existence may be thus tabulated:

YEAR.	PATIENTS.	DIED.	DESTROYED.	RELIEVED.
1876.....	731	13	21	699
1877.....	1,061	30	19	1,012
1878.....	1,478	30	28	1,420
1879.....	1,896	22	24	1,480
1880.....	2,442	24	12	2,406
1881.....	2,585	31	14	2,540
1882.....	3,182	48	14	3,120
1883.....	2,679	31	11	2,637
1884.....	2,561	15	15	2,490
1885.....	2,686	20	15	2,617

OPERATIONS.

One thousand one hundred and forty-eight operations were performed during the year, covering the field of surgery and including operations upon the organs of locomotion, digestion, respiration, genital apparatus, besides those performed in cases of abnormal growths. Many of these operations have been performed under complete anæsthesia, so produced by the use of ether or chloroform, or in partial somnolence, as produced by the use of chloral hydrate.

OPERATIONS PERFORMED DURING THE TEN YEARS.

1876	116
1877	210
1878	314
1879	385
1880	596
1881	987
1882	1,304
1883	798
1884	956
1885	1,148

The following cases presented unusual interest, and reports of them, extracted from the Hospital Record, have been given to the profession through the columns of the *AMERICAN VETERINARY REVIEW*:

1. Embolism of the Iliac Arteries, with Complete Paraplegia—Death.
2. Large Adenomia of the Intermaxillary Space—Recovery.
3. Lacerated Wound of the Free Portion of the Tongue, followed by inability to partake of any kind of food—Destroyed.
4. Double Champignon of Enormous Size—No operation.
5. Constipation in the Horse of Twenty-eight Days' Duration—Death.
6. A Case of Dystochia in the Dog—Cæsarean Operation—Death.
7. Large Melanotic Tumor in a Bay Horse—Recovery.
8. Lymphomatous Growth of the Head, Neck and Inguinal Regions—Partial removal.
9. Large Inguinal Hernia in the Dog—Death.
10. Sarcomatous Tumor of the Intermaxillary Space—Recovery.
11. Luxation of the Patella of Several Months' Standing, Division of the Long Vastus Muscle—Recovery.
12. Amyloid Degeneration of the Liver, Softening of the Muscular Coat of the Intestines—Death.
13. Progressive Paraplegia, Necrosis of the Dorsal Vertebræ—Death.

EXAMINATIONS FOR SOUNDNESS.

This very important part of the practice of the veterinarian has again occupied a large space in our records, upwards of four hundred horses having been subjected to official and professional inspection pending negotiations for change of ownership.

1876.....	123
1877.....	193
1878.....	238
1879.....	298
1880.....	325
1881.....	389
1882.....	459
1883.....	400
1884.....	415
1885.....	402

BOARDING PATIENTS.

The same number of animals were admitted in the hospital. Owing to our stalls being constantly occupied, we have in many instances been obliged to refuse admission to patients, while often we had to discharge animals while under treatment to make room for more pressing cases.

BOARDING PATIENTS DURING THE TEN YEARS NUMBER AS FOLLOWS:

YEAR.	HORSES.	DOGS.
1876.....	244	...
1877.....	220	35
1878.....	442	16
1879.....	485	28
1880.....	530	48
1881.....	487	37
1882.....	504	52
1883.....	518	84
1884.....	524	63
1885.....	525	74

FREE PATIENTS.

We have registered this year 495 animals as having been brought to our free clinics. The number of operations which we performed upon this class of patients reached, however, a total of

205, the largest of our annual records. These clinics continue to be held during the whole year on Mondays and Saturdays at 2:30 p. m., and are intended to afford the poor, who cannot remunerate the services of a good veterinarian, an opportunity of obtaining relief for their suffering animals. We take this opportunity to thank our colleagues who are engaged in practice in the city for the assistance they have kindly rendered us in sending us many valuable and interesting subjects, which we were thus able to bring before our classes of students.

During the past ten years 3,723 patients have thus been treated free of charge, and upon them 887 operations were performed.

FREE CLINIC PATIENTS DURING THE TEN YEARS, WITH NUMBER OF OPERATIONS PERFORMED.

1876, — animals — operations.	1881, 442 animals, 91 operations.
1877, 239 " no account kept.	1882, 462 " 100 "
1878, 286 " 80 operations.	1883, 377 " 130 "
1879, 462 " 28 "	1884, 475 " 162 "
1880, 495 " 91 "	1885, 495 " 205 "

In closing this report I am pleased to acknowledge, and offer my thanks for, the assistance afforded me by Assistant Veterinary Surgeon W. J. Coates, M.D., D.V.S., and the House Surgeons, F. Allen, D.V.S., and J. Ryder, D.V.S.

Respectfully submitted by

A. LIAUTARD, M.D., V.S.

Chief Veterinary Surgeon.

SHOULD EXPERIMENTS ON ANIMALS BE RESTRICTED OR ABOLISHED?*

BY ROBT. MEADE SMITH, M.D., Professor of Comparative Physiology, University of Pennsylvania.

Continued from page 10.

And now let us look at the benefits conferred on animals, and both directly and indirectly on the human race in this one instance, through experiments on animals. Brauell, the eminent professor at the veterinary school of Dorpat, Russia, was the first

*An introductory address to the course of lectures on Comparative Physiology. Reprint from the *Therapeutic Gazette*.

to describe the bacilli which have since been proved to be the active agents in the production of anthrax; and the laboratory experiments of Pollender, Delafond, Davaine, Chaveau, Tous-saint, and others, but above all of Pasteur, who had already demonstrated the parasitic origin of the silk-worm disease, have perfected our knowledge of the action of the virus, and the means by which its energy may be so attenuated that, when inoculated into healthy animals, instead of destroying them, it only gives rise to, at most, a slight ephemeral disturbance and confers immunity from the disease. At first these results were received with incredulity, but in 1881 Pasteur gave a public demonstration at Melun of the truth of these statements. Fifty sheep and twelve cattle were placed at his disposal; half the number were then inoculated with the cultivated or attenuated virus, and fifteen days later all the animals were inoculated with the uncultivated or deadly virus. Forty-eight hours later every one of the unprotected animals was dead, while all of the animals which had received the cultivated virus were in perfect health. But this was not all. It had been claimed that the deadly virus was a laboratory product, and, perhaps, not the true essence of the disease, and it was proposed that the anthrax blood, whose deadly effects on man and animals were so well known, should be used as a test of protective inoculation. An official commission was therefore appointed at Chartres to set the matter at rest, and twenty sheep were allowed for the experiments. Similar results were obtained. Those inoculated with the attenuated virus were not in the least affected when they received what would otherwise have been a deadly quantity of anthrax blood, while of those not thus protected all died but one.

“There was no longer any doubt as to the value of protective inoculation, and there was the greatest anxiety to have the flocks in the anthrax-haunted districts protected as soon as possible. Up to October, 1881, 58,900 animals had been inoculated in the proportion of three to five, *i. e.*, 33,576 against 21,938, which were left unprotected to show the difference. Before inoculation the loss in all the flocks had been 2,986. During the inoculation and until the effects were complete, 260 died in the group of 33,576 which was being operated on; and during the same time

366 died in the non-inoculated group of 12,938. But when the inoculations were completed, in the first group the mortality fell to five and then ceased, while it continued at its usual rate in the non-protected group."

In Hungary, also, Pasteur's process of protective vaccination against anthrax was examined by a royal commission. Ten cattle and sixty sheep were allowed for the experiments; half were vaccinated with attenuated virus, brought from Pasteur's laboratory in Paris to Budapesth, without (except one case that died from clearly distinct cause) producing any visible disturbance of health. All the animals were then inoculated with anthrax spores. Of the protected animals only three died, and of these cases death in two instances was attributed to other causes; none were attacked with anthrax. But of the unprotected animals, out of twenty-five sheep twenty-three died within a week, with well-pronounced anthrax symptoms in twenty-two, the death in the other cases being due to parasitic disease of the liver. Of the cattle experiments, those unprotected by vaccination were all more or less affected by the anthrax inoculation, though in no case fatally, while the protected animals remained perfectly unaffected.

Similar results were also obtained in Kapuvar. Forty-four protected and fifty unprotected sheep were inoculated with virulent anthrax germs; of the former group three were attacked with anthrax, which was fatal in only one instance; of the fifty unprotected sheep, forty-eight died within four days, of anthrax.

Were these results the only points born of this method of experiment, its value could not be overestimated. But anthrax is only a single example of what has been accomplished. In many other cases nearly as valuable and decided results have been obtained, and in others, if the anti-vivisectionists do not have their way, we have every hope of soon acquiring as great power as we already possess in the case of anthrax.

Chicken-cholera is a disease as fatal to poultry as anthrax is to cattle, and it also has been found to be due to the presence of a *bacillus*, which is capable of cultivation, in which process it loses its virulence, and when inoculated in healthy poultry, confers immunity from the disease. For this discovery, also, we

are indebted to Pasteur. He found that when a minute particle of blood from chickens dying from cholera was placed in sterilized chicken broth, and kept at the temperature of about 30 deg. C., immense numbers of micrococci developed for two or three days, and then settled as an opaque deposit to the bottom of the culture fluid, and there remained without change, provided access from all external impurity was prevented. Thus treated, a drop of the culture fluid, after shaking, is as virulent as the original blood, and injected into chickens or rabbits, rapidly produces fatal cholera.

But if a series of cultures are made, allowing intervals of several weeks or even months to elapse between the periods when active development takes place and the commencement of the next cultivation, there is a gradually decreasing energy in the virulence of the fluids, so that a point is finally reached when the injection of a drop of this attenuated virus into the muscles of a chicken produces either a transitory local inflammation, which never proves fatal and soon passes off, or else no visible effect; while complete immunity to cholera, lasting for a year or more, is acquired.

It was further proved that this reduction in the energy of the choleraic virus was due to the action of the oxygen of the atmosphere; for when the cultures are carried on in hermetically sealed tubes, no decrease in virulence takes place, no matter what the interval between the different series of cultivations may be.

By this means chickens may be vaccinated against cholera with even more positive results than is the case in human small-pox.

Contagious pleuro-pneumonia in cattle is a disease with which we in America are unfortunately but too familiar; and yet in 1850 the question as to its contagiousness was still undecided. At the suggestion of Dumas, a commission was then appointed to investigate the subject, and the result of these experiments was to prove that the disease was communicable, not only by co-habitation in 50 per cent. of the exposed cases, and of these 70 per cent. proved fatal, but that it was also transmissible without contact, through the atmosphere. The experiments of this commission further showed that when once affected with this disease,

the animals which recovered had acquired immunity to subsequent attacks.

Experiments as to the preventive power of inoculation were also made by the commission, which, although not carried far enough to be conclusive, showed the direction in which other experiments should be prosecuted; and, profiting by their experience, Dr. Willems, of Hasselt, Belgium, found that in fifty-four cases inoculation at the root of the tail with fluid taken from the lungs of animals dying of this disease, conferred complete immunity in thirty-eight cases, though the operation proved fatal in six cases. Similar results were obtained by Dutch and Belgian commissions.

(To be continued.)

CONTAGIOUS PLEURO-PNEUMONIA.

Thesis presented by W. ZUILL, D.V.S., before the University of Pennsylvania, Medical Department.

(Continued from page 13.)

October 4th.—Wishing to make further investigations of contagious pleuro-pneumonia, I to-day visited West Chester, Pa., for that purpose, in the company of Mr. Thomas J. Edge, Secretary of the State Board of Agriculture, and Dr. Bridge, the Veterinarian of the Board; here we met Dr. Salmon, of Washington, and Prof. Huidekoper, of Philadelphia, on errands similar to my own.

The first farm visited by us was owned by Wm. Eaches; here three animals which had been separated from the rest of the herd were found infected with contagious pleuro-pneumonia. These animals were slaughtered, and autopsy made.

Before taking up in detail the symptoms of the individual cases, perhaps it would be well to give a general description of the most marked and prominent diagnostic symptoms of the disease.

When an animal is first noticed to be unwell, and attention called to the fact, the premonitory symptoms, as a rule, have passed by, as an examination will show that extensive structural

changes have taken place in the lung, proving that the disease has been gradually increasing for some time before its presence in the system was made manifest.

“In examining a suspected herd of animals, all showing a temperature above 102° should be carefully watched. If the heat rises above this, there can be little doubt that disease is at work. When the disease is established, the temperature may rise to 105° , 106° , and rarely to 107° . In 134 cases recorded, eight reached this temperature.”—*Williams*.

“The obvious symptoms are slight rigors, the hair standing the wrong way, loss of appetite, diminished secretion of milk, unckling over of the hind fetlocks, cough, apparently full belly, constipation, scanty and high-colored urine, pulse sometimes large and soft, at others accelerated and feeble in character, and, again, small and wiry, tenderness on pressure to the intercostal spaces and back. Should recovery not take place, signs of general disturbance gradually—sometimes rapidly—increase, cough is more persistent, mucous membranes of the nose injected, respiratory movements are increased in frequency, abdominal and shallow, elbows turned out, nose extended, back arched, hind limbs drawn under the body, the breathing becomes painful, accompanied by a moan or grunt on expiration, and nostrils dilated. A purulent and yellowish discharge sometimes from the eyes and nose; the extremities, horns and ears vary in temperature, the surface of the body hard and dry, hidebound; constipation, often succeeded at an early stage by diarrhoea.”—*Williams*.

To return to the symptomatology of this disease, as seen by me in the individual cases, in different parts of this State, and in the State of New York. I find that the first animal examined at Mr. Eaches' farm had been noticed to be unwell for about ten days, at the present time showing a temperature of $103\ 3.5^{\circ}$, labored and shallow respirations—about 50 per minute. I was unable to get the pulse at all satisfactory; there was loss of appetite, urination being suspended, yet the belly had the appearance of being distended with food, resembling that condition known as hoven: a term applied to cattle when distended with gas from eating too much green food. The back very much arched, the hair rough and shaggy, the countenance expressive of great anx-

iety, indisposition to move, occasional cough, pressure on the back and intercostal spaces causing considerable pain, the hind feet drawn up to within a few inches of the fore ones in order to make them carry as much weight as possible, and in this way relieve pressure on the chest walls; the nose and mouth hot and dry, the feces hard and dry and in small quantity. No special note could be made of the urine at this stage of the examination; mucous membrane of the eyes pale and livid, and of the nose congested.

Percussion of chest walls on left side gave exaggerated or tympanitic resonance in its entirety, the respiratory murmur much increased, loud and harsh, giving the impression of disease. In fact this mistake is often made; it is one of the errors of diagnosis, and must be guarded against.

Percussion on the right side gave dullness over the whole extent of the lung, and caused considerable pain; on auscultation no sound was audible in any portion of the organ.

After completing my examination the animal was slaughtered; the tissues covering the chest wall on the right side, including the fore limb, were next removed, and the thoracic cavity opened. The first thing to attract attention was the large quantity of fluid contained therein, yellowish in color, and floating in it were lumps and shreds of friable fibrous material, breaking down easily under the finger. I judged the quantity of this fluid to be about eight pints. When tested, was found to contain albumen; it coagulated into a firm clot on exposure to the air, but would again liquify when the temperature was raised to 100°, or about that of the body.

On removing the right lung from the body, it was found to be consolidated and hepatized throughout its entire structure; the surface or pleura of the organ was covered by a fibrous or croupous exudate, in many places half an inch thick, which could be easily removed, leaving the pleura as if covered by granulation. When thus removed, blebs or bulla were observed just under the pleura, varying from a pea to an egg in size. These bulla were filled with a material which in every respect resembled that filling the chest cavity. There was no way of determining the exact weight of this organ; it was roughly guessed at from

25 up to 50 pounds. It was immensely swollen to about double its normal size, forming adhesions with the costal pleura, with the diaphragm and pericardium; these adhesions, however, were not very firm, but could be easily separated.

The costal pleura was in about the same condition as the visual, separating easily from the underlying tissue, which presented a sodden, edematous appearance.

The left pleural cavity and its contents were healthy; heart also normal.

Changes in the abdominal organs very slight; the most marked was the small quantity of fecal matter in the bowels; this was dry, hard and in small masses; there was evident lack of secretion of the mucous membrane.

The bladder contained a small quantity of dark urine; the other organs were healthy.

CASE No. 2.

This animal was killed at the owner's request, she having had the disease some four or five years prior. At the time of the autopsy there was no evidence of disease.

The autopsy was quite negative, except collapse of that portion of the lung previously occupied by the disease, with bands of organized lymph connecting this portion of the organ with the costal pleura; the other organs of the body were normal.

(To be continued.)

COLICS IN HORSES.

BY MR. LAGUERRIERE.*

(Continued from page 16.)

The study of colic in its various forms is one of the very foremost importance to the veterinarian. The frequency of its occurrence, the intense severity of the symptoms, the pecuniary loss so often involved, together with the difficulty of prevention by prophylactic means, justify the statement, and fully explain the

* Translated from *La Presse Veterinaire*.

prominence of its claims to the consideration of the practitioner. In the army especially, now that morvo-farcinous affections have, for the most part disappeared, it is to colics, principally to those of indigestion, with or without overloaded intestines, that the greatest amount of mortality is due.

NOSOLOGICAL CLASSIFICATION OF THE VARIOUS DISEASES PRODUCING COLICS.

FIRST GROUP.—Diseases due to irritation of the nervous intestinal system. *Division*—Nervous colics. *Subdivision*—Gastralgia; enteralgia; gastro-enteralgia.

SECOND GROUP.—Affections due to functional changes of the digestive organs. *Division*, (a) flatulent, or gaseous colic; (b) colic of simple indigestion; (c) colic of indigestion with overloading; (d) colic of indigestion complicated with nervous accidents. *Subdivisions*.—(a) Meteorization, tympanitis; (b and c) gastric; stomachic; gastro-stomachic; (d) vertiginous indigestion, or stomach staggers.

THIRD GROUP.—Affections due to excess of vascularity, of a congestive nature—may be either essential or symptomatic. *Division*—Red colic; inflammatory colic. *Subdivision*—Intestinal congestion; enterorrhagial.

FOURTH GROUP.—Affections due to presence of living organized bodies; foreign bodies, or acting as such. *Division*—Vermiform affections; calculi; poisoning.

FIFTH GROUP.—Affections due to changes of form or situation, or solutions of continuity. *Division*—Various displacements; various hernias; volvulus; invagination; tearing or various wounds.

SIXTH GROUP.—Affections due to complications of colics already present—they constitute morbid epiphenomena of the most serious character and are too commonly fatal. *Division*—Congestion; enterorrhagia; inflammation; gangrene; volvulus; invagination; hernia; various displacements.

SEVENTH GROUP.—Affections of abdominal organs other than the intestinal canal. *Division*—Peritoneal; hepatic: nephritic; cystic; ovarian and uterine colics.

No classification can ever be perfect, and we present this one

for what it is worth. When an animal is evidently affected with colic, it will in our view, be an easy matter to refer the attack to one of the designated groups, and the disease thus classified, its true nature ought easily to be positively determined.

CHAPTER II.

GENERAL SYMPTOMATOLOGY OF COLICS—THEIR DIFFERENTIAL DIAGNOSIS AND ETIOLOGY.

1. *General Symptoms of Colics.*—Generally the onset of colic is sudden, if not instantaneous; at times, however, the attack begins by the patient manifesting a degree of dullness while he gazes at his flanks, and stands back at the end of the rope or chain of his halter. But whether appearing suddenly, or developing slowly, the patient soon becomes more or less restless; he paws and stamps on the ground; pulls his bedding back; twists his body; flexes his fore-legs; brings all his feet together; tries to lie down, yet does so with hesitation, and soon rises again suddenly, or rolls himself, while stretching all his four legs; or again, remains down, either on his back, or resting flatly on his side. In some forms of colics, the animal, when lying down, expresses his suffering by moaning or grunting loudly. In all cases, the countenance is anxious and contracted, the nostrils dilated, the eyes widely opened and fixed, with an expression indicating the pain which he suffers; all his movements and struggles are more or less violent, according to the degree of pain which he endures. In some animals these symptoms are of long continuance and persistency, and there is no intermission in the restless and wearisome motion; the twisting of the body; the stamping; the lying down and rising up, and other indications of the pain which has attacked the vitals of the tortured victim, and for which he is vainly seeking relief in his contortions and struggles. But occasionally, the disease is marked with distinct intermissions, which are manifested by true alternations and accesses of violence, more or less characteristic. During the remissions, the patient remains quiet in his stall, or stretched on his bedding, at times still grunting uneasily, as an expression of the suffering he is enduring. Every individual, however, has his own peculiar form of attack, and his special mode of exhibiting his distress;

and the general manifestation of the disease will, therefore, be modified and diversified according to the individuality of patients.

The respiration is usually accelerated in colic, and remains so in various degrees until the end, fatal or favorable, of the attack. But on the other hand, notwithstanding what has been written on the subject, the circulation at the onset of the attack seems to be reduced. Arterial action is generally depressed, and the pulse hard, small and often irregular, and below the normal standard.

During this period the visible mucous membrane, especially that of the conjunctiva, is pale. The sensitive nervous system of the abdominal viscera participates in the functional troubles of those organs, and all the other great functions of the economy are also modified by reflex action. The heart, by a phenomenon that we cannot very well explain, remains indifferent to the existing morbid condition, and even diminishes its action, and as a consequence the circulation is weaker, the molecular changes are less marked, the lowering of the general temperature, and especially the cooling of the extremities, follows as a consequence of the existing state of affairs. At a later period the heart again accelerates its action, and its contractions become strong and repeating; but the pulse generally remains weak, small and thready, and towards the final struggle for life becomes imperceptible.

There is often profuse perspiration, occurring from the very beginning of the disease; while in other cases this is a manifestation indicating a favorable crisis. In cases of fatal termination, this always shows itself towards the end; it is then cold, almost icy, covering the entire body, and dropping profusely on the ground.

Certain forms of colic recover, either by treatment or by instantaneous natural reaction. This is shown by a more or less energetic expulsion of wind, fæces or urine. Preceding, or immediately upon these expulsions, the animal shakes himself up, and changes instantly from the peculiar and intense expression of the pain he has endured.

Occasionally, and even with the best care and treatment, the symptoms continue to increase in severity, the struggling motions repeat themselves more and more rapidly, and the pain becomes

aggravated and more marked at each renewal of the struggle. The animal loses more and more its instinct of conservation, and recklessly throws himself down by his own weight, regardless of pain or possible injury. The respiration increases more and more; the heart beats strongly, the arteries still remaining depressed; the pulse, first thready, becomes less and less perceptible; the mucous membranes become injected, and at times cyanotic, and an abundant and cold perspiration covers the body. Soon a deceptive appearance of improvement presents itself—generally an infallible sign of a termination close at hand—the patient seems to become more calm; he stands back at the end of his halter; his legs are wide apart; his features are still characterized by an expression of the violent agony he has endured; his respiration becomes more accelerated; he is pulseless. And then the coolness of the body is more and more marked; he lies down, generally now in a careful manner, stretches his legs, and with a few slight convulsive efforts, expires. The battle is over; the victim has succumbed, exhausted by the violent pain which has tortured him, and which has been followed by successive alterations in all the functions of the organism.

Let us add to this description that even in slightly severe colics all the functions of the gastro-intestinal canal and of the bladder are stopped. There is paralysis of the muscular coat of these organs, and as a consequence the passage of the food and of the gases from the stomach and intestines is arrested, while micturation is also suspended. It is a remarkable clinical fact that during stomachal or intestinal colics there is a cessation in the function of the bladder. The patient often stretches himself to micturate, but fails. In a differential diagnostical point of view, as well as in the consideration of questions of treatment, we shall have to re-consider subsequently this paralytical condition in the generality of colics.

To resume: Violent pains, whether continuous or intermittent, giving rise to struggles more or less violent; accelerated respiration; pulse at first normal or even slow, then accelerated and thready, or even absent, according to the results; frequent borborygmus, sometimes absent; constipation, or only expulsion of

gases and of a few droppings; strong efforts of micturition, generally abortive; sudden disappearance of the colic, when the attack ends favorably; increase in the character of the symptoms, followed by deceptive improvement, a sure precursor of death, in fatal cases.

[*To be continued.*]

REPORTS OF CASES.

DISEASED LIVER IN PREGNANT COWS.

BY THOMAS B. ROGERS.

I have recently had a series of cases occurring in milch cattle, which seem to me to point to a hitherto unnoticed affection of the parturient state in cattle.

CASE I.—An old cow, multipara, near term; history received from owner was as follows: "This cow has been down for ten days; refuses food and water; has been and now is constipated, in spite of the administration of large doses of salines." Examination showed dry muzzle, slight icteric tint of visible membrane, the presence of a small amount of vile smelling fæces in the rectum. The case was complicated with retroversion of the bladder, due probably to laxity of the vagina and its partial eversion through straining. Reposition of the bladder allowed it to be emptied, but as the cow was evidently moribund and there was a show to save the calf, she was knocked on the head and a living calf removed from her. Post mortem examination showed an enormous fatty liver, portions of the gland looking as though the true tissue was commencing to break down. The other organs were apparently unaffected, but anæmic.

CASE II.—A cow, multipara, had calved about two months previously, and had been running down ever since; was down, though able to rise; muzzle hot and dry, obstinate constipation was present, and the respiration was painful, not difficult; membranes somewhat yellowed. Post mortem showed fatty liver, the organ weighing about thirty pounds; the capsule of Glisson opaque and somewhat easily separated; the kidneys congested,

with endocardites of the right heart; other viscera apparently healthy, though anæmic.

CASE III.—A young cow, five months advanced in her second pregnancy, had been unwell for some weeks; had temperature 105° , obstinate constipation, rectal examination revealing a little bad smelling fecal matter, with considerable blood and mucus; anorexia. Ordered cinchona with opium and camphor, to be followed by oleaginous purgatives. Shortly afterwards I heard that the cow was much better, but a few days ago the owner again called on me, stating that the cow was down and unable to rise. I requested him to telephone me when she died, and a day or two afterwards he did so. Post mortem showed the liver very small, weighing about six pounds, greenish brown in color, very soft and flabby; gall bladder full of bile, apparently healthy in character. The true liver structure was apparently lost. The kidneys very small, of the same color and consistence as the liver, the cortical portion having lost its consistence, though some traces of the proper structure of the medullary portion still remained. The other organs were healthy, though remarkably anæmic, the cow looking as though she had been bled to death. The intra abdominal fat was almost entirely removed, and the intestines were empty, spotted with patches of black pigment, and as white as though they had been washed and prepared for anatomical demonstration.

These cases show the necessity for the study of comparative medicine. Had I been unacquainted with human pathology I do not think that I should have recognized the condition with which I had to deal. These cases were undoubtedly illustrations progressive in degree of the condition of the liver found always in pregnant women. There is always a physiological parenchymatous degeneration of the liver in pregnancy, and a physiological anæmia. In these cases all physiological bounds had been passed, and the last-cited case showed acute yellow atrophy, icterus gravis. About the treatment of the condition when found, or its avoidance, I have at present nothing to say, though I hope to continue the investigation should more cases occur in my practice. Meantime this condition, with its gravity, cannot be overlooked in the diagnosis of similar cases to the ones I have described.

A CASE OF BRONCHOCELE.

BY JAMES ALBRIGHT, V.S.

History.—Roan mare about 14 years old brought to me for treatment. On examination of animal, found her to be affected very badly with enlargement of the glands; the right gland just about a quarter as badly affected as the left. The gland on the left side of the trachea very badly affected, so as to interfere with the animal's respiration when she was made to trot or go faster than a walk. Gave her the usual remedies, both internal and external, but the medicine did not seem to have any effect on the diseased gland whatever. After following the treatment a proper length of time to remove or check the disease (which it failed to do, the gland steadily growing and getting so large as to interfere with the animal's respiration at all times, whether at work or not), the only alternative for me to remove this was to extirpate the gland. We advised the owner of all the dangers attending the same, and with his consent to let me operate on the animal, it was prepared for operation. At the time of taking the gland out the animal was very docile. We did not use much restraint. We let the animal stand up and inhale chloroform until its effects were noticed on the system. Then an incision was made over the middle of the growth the entire length of the gland, about five inches. The incision was made through the muscles, the cellular tissue being separated with thumb and index finger, so as not to cut the veins and arteries. After the cellular tissue was divided, the gland was exposed to the eye. It was then firmly grasped with the hand and taken out. The gland was about five inches long by three wide. The edges of the wound were brought together with sutures, and the wound was dressed three times a day with the following solution: Carbolic acid, ℥i; tr. aloes, ℥ii; sp. camphor, ℥ss; aqua, ℥ii. The animal did exceedingly well; she never missed a meal during the treatment. The scar that is left cannot be noticed, except by feeling. The formula used is my own, as far as I know of. I tested it this winter on three cases that were very badly hurt, and they did well in the coldest weather we had.

OBSTETRICAL CASES.

BY A. W. HOOVER, V.S.

Give me a little space in THE REVIEW to report two singular obstetrical cases that came under my observation. I will briefly state them while they are fresh in my mind. Sunday, the 5th, at noon, I was called to see a mare that had been in labor all the forenoon; was attended to by a non-professional, with no good results whatever. Examination revealed a breech presentation with a monstrous head lying near the pelvic orifice. The forehead was soft and yielding to pressure, as we find in large tumors. Around this was a rim; I can compare it only to an old-fashioned corn-meal sieve. In thickness it was one-fourth of an inch by two inches wide; in diameter, ten and one-half inches. The knife was carried in and the head laid open, letting out the contents; the rim was divided and taken out and the head, or remainder of it, straightened, the hind legs got into proper position, and delivery safe and easy.

Case No. 2 occurred to-day. Just got home and very tired. Drove ten miles since one o'clock. This case also had been grammed, and given up, and the midwife gone home to rest and probably come to a wise conclusion that quackery is neither profitable nor honorable. Found all the legs rigidly flexed, as also the neck, which lay in the side. This was truly a critical case, and occupied an hour and a half before delivery was accomplished. The limbs, as well as the head, had to be amputated.

IMPACTION OF COLON FOR TWENTY-THREE DAYS.

BY W. H. GRIBBLE, D.V.S.

The case I now write a description of did not come under my own personal observation, but that of a well-known veterinary surgeon of this city, from whom I obtained the facts as I give them to you.

Many of us would call this a large story, but its truth is vouched for, not only by the attending surgeon and his assistant, but by any member of the Indianapolis Fire Department stationed at Engine House No. 1. I saw the animal two or three

times, from curiosity, and many others did the same, as the case was much talked of.

The animal is a large, fat gray horse of the Fire Department, and, as far as known, was never sick before. February 20, the animal was taken with a slight colic, as was supposed, but pain relieved only while under influence of narcotics.

February 21.—On being visited this morning, it was seen no feces had passed, as rectal examination was made, and true trouble diagnosed. Aloe, \mathfrak{z} i, podophyl, grs. xv, was given. Opii, 3 i, administered at evening. The animal shows no acute pain.

February 22.—No operation. Olei. lini. ordered every six hours. Opii, 3 i, a. m. and p. m.

February 23.—No action. Another pill given and oil continued. F. c. nux. vom., \mathfrak{z} xxx, and f. c. bella., \mathfrak{z} xv, were given alternately every two hours. These latter continued every day.

February 24.—Oil continued, together with rectal injections of warm water several times a day. This latter continued to the end.

February 25.—Still no action. Another pill given; oil continued.

February 26.—No action. Oil stopped; another pill given.

February 27.—Severe pains. Gave opii, 3 i. Four balls having been given, and urine smelling strongly of aloes, and looking like oil, concluded to use injection alone.

February 28. No action. Assistant, unknown to surgeon, gave magnesii. sulph., lb. ss.

March 1, 2, 3, 4.—Still no action. Digitals used in place of belladonna. Injections used.

March 5.—Concluded to try physics again. Pill given; injections continued.

March 6.—Olei. lini., \mathfrak{D} i, a.m. and p.m. Injections.

March 7.—Another pill, with injections.

March 9.—Same as on March 7. Three dung balls were hand-raked by assistant. Three alternate days, pills given so stopped.

March 10, 11, 12, 13.—Still no results. Constant injections.

March 14.—Having stopped four days, commenced physics again. Gave aloe, \mathfrak{z} ss, podophyl, grs. x, a.m. and p.m., with injections.

March 15 a.m.—No action. In considerable pain, Gave pill same as yesterday. P. M.—Has had considerable pain all the afternoon, and toward evening passed small quantity of soft feces.

March 16 a.m.—Enormous quantity of feces passed, looking like cow dung.

March 20.—Animal eating well, bowels operating regular.

Here were twenty-three days passed without one single operation of bowels, and during this time the animal had partaken of no solid food, simply the water that was given him had a quantity of bran and salt stirred in it, and of this he partook of but very little; yet he did not seem to lose much flesh. At no time did he show the acute pain of spasmodic colic—simply constantly uneasy, excepting after physics, when pain was more severe; neither did he become tympanitic to any extent.

Let us also notice amount of drugs: aloes, \mathfrak{z} viii, podophyllin, \mathfrak{z} ii 1-8, olei. lini. cong., ii x, besides nux. vom., which was given constantly, and others. If any veterinary surgeon has record of case anywhere near equalling this, please let us know; then we can the more easily believe this.

EXTRACTS FROM ENGLISH VETERINARY JOURNALS.

CASES TREATED WITH PHYSOSTIGMICE.

BY J. NETTELTON, M.R.C.V.S.

These consist of the reports of five cases of colics of various nature treated by that medicine.

Case No. 1 is a black gelding, suffering with impaction of the bowels. He had been in pain for twenty-four hours, and had received at intervals, but without effect, \mathfrak{z} vi of aloes, two pints of linseed oil and \mathfrak{z} vi of nitrous ether. When first seen \mathfrak{z} i of physostigmice was cautiously administered by injections. For the first twenty minutes no change was observed, but afterwards the

effect of the medicine began to be manifested, viz: a movement of gases plainly heard in the bowels, a slight perspiration, and an increase in the pulse. These were observed for an hour, when the animal settled back into its former state, apparently neither better nor worse. An hour later he was given a draught of extract of belladonna, nux vomica and water, and was left alone. The next day the bowels had acted, but no purgation had set in.

Case No. 2.—This was a mare, which, though she had received a colic mixture, was growing worse, and betrayed symptoms which seemed to render her recovery doubtful. She was treated with ℥ii of physostigmice by injection. An hour afterwards she was said to have been relieved, so far as the bowels were concerned, but that she had pains incessantly until she died three hours afterwards.

Case No. 3 was a brown hunting mare suffering with impaction of the stomach. She received ℥ii of nitrous ether, ℥i of tinct. aconite, ℥i of oleum lini. Four hours later, not having improved, she was given nitrous ether, ext. belladonna and water, repeated three or four times at intervals; also linseed oil. Eighteen hours from the beginning of the attack, ℥iii of physostigmice were injected. She suffered great pain for the first hour, but passed fæces, and was much relieved. Still no purgation set in.

Case No. 4 was a bay mare suffering with spasmodic colic from inactivity of the bowels. At the outset ℥ii of the drug were administered, and in fifteen minutes the effects manifested themselves. In thirty-three minutes the movement of gases was heard; in forty-five minutes much pain and more fæces; in sixty-four minutes still more fecal discharge, with less pain—all followed by rapid recovery.

Case No. 5 was a cart gelding suffering with flatulent colic and inactivity of the bowels. Aloes, linseed oil, ol. terebinthine and nit. ether were given. Two hours later the symptoms being more severe, another similar draught, minus the oil and aloes, was administered. Three hours later, ℥iii of physostigmice were injected. Three hours afterwards the animal was free from pain, and had passed some fluid fæces. Ten hours afterwards the bowels were costive; in five hours afterwards more purgation set in, which lasted twelve hours.—*Vet. Journal.*

SCAPULO-HUMERAL DISLOCATION IN THE HORSE.

BY J. K. PILKINGTON, M.R.C.V.S.

A bay mare was driven for a trial by her owner and a friend. On their return the friend, against the owner's will, tried her under the saddle. After galloping some distance at a furious pace, she dashed on a narrow pathway between a wall and a lamp-post, striking her right shoulder against the latter and throwing both heavily to the ground. When called, Mr. Pilkington found the animal down, and she was raised with great difficulty, and found scarcely able to stand. On examination, the shoulder was found much swollen and bruised and slightly deformed, the animal being unable to carry any weight upon it. Partial fracture of the scapula and dislocation of the joint was diagnosticated. Though he was advised to have her destroyed, the owner desired to give her a chance, and she was placed under treatment. This consisted in hot water fomentations, with a strong solution of arnica, and a small cathartic dose. After seven or eight days the leg was placed in a proper position. The swelling was reduced, but the patient was scarcely able to move. A seton was then introduced from midway in front of the scapula, down under the chest, in front of the shoulder joint; then a blister was applied, which was repeated several times. After a few days the patient suffered from a tetanic attack, which was attributed to the effects of the wounds and the seton. The seton was then removed, and solution of belladonna applied. The animal got over that trouble in a few days, and after eight or ten weeks was turned out to grass. After three months she was taken home, and though still lame was put to slow work, which she does pretty well, with the exception of an occasional trip, being unable to extend or govern the toe in a proper manner.—*Ibid.*

PARALYSIS IN EWES, CAUSED BY EATING "SCROPHULARIA AQUATICA" (GREATER WATER, TIGER-WORT, WATER BETONY.)

BY T. RUNCIMAN, M.R.C.V.S.

On the 22d of January last the author was called to attend some ewes which were suffering from eating too freely of marigolds. He found six lamb ewes, five of which were unable to

stand; if lifted up, they immediately tumbled down if not balanced against the wall. In fact, they were perfectly helpless. The sixth reeled and staggered, but was not so helpless. There was complete loss of appetite, constipation and inactivity of the kidneys. The marigolds were evidently not at fault.

On inquiry it was found that they had been brought home, five or six miles off, two days before, and put in a field through which runs a large ditch, which had been lately cleaned out and all the herbage and refuse thrown out on the bank. On examination it was noticed that wherever any of this plant was about among the ditch cleanings the leaves were all cropped close off. There was no doubt that this was the cause of the illness amongst the ewes. It had not been observed before that this plant produced illness among stock. Perhaps in its green state they instinctively shun it; this was in a partially dried state.

The treatment consisted of purgatives, followed by stimulants and nux vomica, and all the animals recovered. One had partial paralysis of a hind leg for two or three days after the others recovered; but another aperient seemed to have a good effect.—*Ibid.*

EXTRACT

FROM THE REPORT OF THE FIRE DEPARTMENT OF THE CITY
OF BROOKLYN.

For the first time since the organization of this department, the care of its horses is in the hands of a regularly graduated veterinary surgeon. In the selection of Elisha Hanshew, Jr., D.V.S., a graduate of the American Veterinary College, to fill this position, it was particularly fortunate.

Since his appointment on May 1, a small pharmacy has been fitted up in the veterinary hospital and provided with the necessary drugs and instruments, so that the department is put to no extra expense for the treatment of sick or disabled horses.

The general condition of the animals is good. There has been a gradual weeding out of the unserviceable horses of the department, but there still remains some that, through long service, have become unfit for duty, and others that are too small for the

work required of them. There are now eighty-seven horses on hand, eighty-one of which perform active service, six being held in reserve. The reserve horses are in poor condition, being of necessity the worst animals in the department.

During the past year twenty-five horses were purchased, nineteen were sold (netting \$1,656.55), being unfit for the service required of them, two were killed by order of the Society for the Prevention of Cruelty to Animals, and two died of lung fever.

An innovation has been made on the method of purchasing horses heretofore employed, which has thus far yielded satisfactory results. A trial of thirty days is demanded before purchasing, and no bill is certified for payment until the veterinary surgeon has given a professional certificate as to the age, size, color, health and general fitness of the horse to be purchased, for the work of the department, which certificate is attached to the bill as a voucher when it is forwarded from these headquarters.

COLLEGE EXAMINATIONS.

NORTHWESTERN VETERINARY COLLEGE.

The closing exercises of this college, and distribution of prizes and diplomas, took place in the lecture-room, 313 Second avenue, south. The examining board, students and professors were in attendance.

The following gentlemen being selected by the Board of Trustees, constituted the examining board: Messrs. D. S. Brown, V.S., Genoa, Ill.; J. F. Ryan, V.S., Chicago, Ill.; M. McEachran, M.D., V.S., Winnipeg, Manitoba; George Sermon, M.R.C.V.S., Minneapolis.

Those of the final class who passed their examinations and complied with the requirements of the college (having attended three winter sessions of six months each, and one summer session of three months) were recommended by the Board of Trustees and granted their diplomas after passing the board of examiners.

List of final students—J. J. Bradley, M.D., Minneapolis; R. C. Mason, Mount Carroll, Ill.; J. F. Lee, M.D., Minneapolis.

Freshmen students—Leo Breisacher, Detroit, Mich.; O. C.

Burnham, Independence, Iowa; R. A. Van Nest, Minneapolis.

Diplomas and prizes were granted as follows: Finals—J. J. Bradley, M.D., gold medal for best general examination; R. C. Mason, \$50 in gold for practical anatomy, surgery and general proficiency. Freshmen—Leo Breisacher, opthalmoscope for best general examination in his class.

The degree granted is Doctor of Veterinary Medicine and Surgery—D.V.M.S.

The president, C. C. Lyford, M.D., V.S., on presenting the diplomas and prizes, gave the history of the college as follows: The college was established in October, 1881, having in attendance Messrs. J. F. Lee and L. Gardner as students. The following year a matriculating examination was established and two more students were admitted, Messrs. J. J. Bradley and R. C. Mason. The third year many applications were made, but all failed to matriculate. The fourth year the students admitted were Messrs. Leo Beisacher, O. C. Burnham, R. A. Van Nest. These diplomas are the first granted in the United States requiring three years' session, and the only ones on the continent in which a summer session in addition is compulsory.

The gentlemen who have this day received the degree of the college, though small in numbers, cannot but maintain a high standing in after life, and be an honor to the profession, judging from the evidence they have given as thorough students and of high moral character.

Dr. McEachran remarked on the unusual proficiency shown by the students, and the high standing required. Having known the principal, Dr. Lyford, both as a student and professor in the Montreal Veterinary College, he considered him fully capable of occupying the position he now holds, and especially adapted to imparting knowledge to the students. Mr. Ryan reiterated Dr. McEachran's statement, and also knew the president as a class-mate and hard-working student. The meeting then adjourned until 7:30 that evening.

At 7:30 the meeting was called to order, C. C. Lyford in the chair, to consider the formation of a veterinary medical association, and named Mr. Price as secretary pro tem. Mr. Sermon proposed to form a veterinary medical association to be known as

the "Northwestern Veterinary Medical Association," which was seconded by Dr. Bradley, and carried unanimously. The following officers were elected for the ensuing year: C. C. Lyford, President; George Sermon, Vice-President; Richard Price, Secretary and Treasurer; and the following gentlemen, with the officers, were elected members of the Council for a similar term: Messrs. Brown, McEachran, Ryan, Bradley, Mason and Pomeroy.

The resident members of the association were elected to draw up a set of by-laws for the association.

The meeting adjourned subject to the call of the president.—*Minneapolis Tribune.*

MONTREAL VETERINARY COLLEGE.

The final oral examinations by the board selected by the Council of Agriculture were held at the college. The board was constituted as follows: Messrs. Williamson Bryden, V.S., Boston; F. S. Billings, V.S., Roxbury, Mass.; A. McCormick, V.S., Ormstown; A. W. Harris, V.S., Ottawa; J. A. Couture, V.S., Quebec; Charles Levesque, V.S., Berthier en haut.

The following gentlemen having fulfilled all requirements of the college, attended three full sessions, and passed the examinations in botany, physics, histology, chemistry, physiology, materia medica, anatomy, general pathology, theory and practice of veterinary medicine and surgery, being considered by the board fully competent to be admitted to practice as veterinary surgeons, were granted the diploma of the college, viz.: E. W. Hoare, Charles G. Lamb, W. F. Scott, John F. Magor, A. A. Keys, C. S. Garland, W. P. Mayo, J. Turcot, A. Rouif, O. Fortin and R. Lapointe.

The closing exercises took place in the college lecture room. Mr. Lesage, deputy commissioner of agriculture, was in the chair, and the following gentlemen were present:—U. S. Consul-General Starnes, Mr. B. G. Coglin, Dr. Beaudry, Mr. S. N. Blackwood, Dr. Billings, Dr. Bryden, Dr. McEachran and many other prominent gentlemen. Mr. Lesage presented the diplomas and prizes, which were awarded as follows:—

PRIZES IN THE ENGLISH CLASSES.—For the highest aggregate

number of marks in all subjects, prize a medal, the gift of the Council of Agriculture, won by E. Wallis Hoare.

General Pathology—1st prize won by E. W. Hoare; 2d prize won by C. G. Lamb.

Anatomy—1st prize won by C. G. Lamb; 2d prize won by E. W. Hoare.

Best oral examination, special prize, won by E. W. Hoare.

Materia Medica—1st prize won by Th. Wroughton; 2d prize won by Chas. C. Dyer.

JUNIORS.—*General Pathology*—1st prize won by C. C. Dyer; 2d prize won by Th. Wroughton.

Anatomy—1st prize won by C. C. Dyer; 2d prize won by Th. Wroughton.

Botany—Prize. A. Rowat. First year, special prize in anatomy, won by F. Miller.

FRENCH CLASSES.—Best examination in all subjects, medal, the gift of the Council of Agriculture, won by J. Turcot; 2d prize won by A. Rouif.

General Pathology—Prize won by B. Lapointe.

Anatomy—Won by A. Rouif.

Materia Medica—Won by O. Fortin.

JUNIORS.—Best general examinations, won by L. Lorrain.

Special prize, practical anatomy, won by L. Lorrain.

ONTARIO VETERINARY COLLEGE.

The closing exercises and presentation of prizes in connection with this college took place Friday, March 27th, at Toronto, in the lecture-room of the college. Dr. A. Smith, principal of the college, presided. Among the gentlemen present were the following: The Lieutenant Governor, Col. Gzowski, Prof. Goldwin Smith, A. Blue, Deputy Minister of Agriculture; Henry Wade, Secretary, and Mr. Moore, President Agriculture and Art Association; Dr. Thorburn, Capt. Geddes, Dr. C. J. Alloway, Montreal.

In opening the proceedings, Dr. Smith said the college was instituted in 1864, and in 1866 three gentlemen graduated. Since that time there had been a regular increase in the number of graduates. The past session had been the most successful since

the college was opened. They had students from all parts of the United States and the Dominion of Canada. Those gentlemen who had graduated in former years had been successful in their practice, and had commanded the respect and esteem of the communities wherever they were located.

GRADUATING CLASS.

The names of the students who form the graduating class were read by Dr. Duncan, as follows: John Jas. D. Banting, Cookstown, Ont.; E. R. Barnett, Smith Road, Ohio.; Wm. F. Berry, Marion, Ohio; Felty A. Bolser, Newcastle, Ind.; Charles Burger, Hornby, Ont.; Tait S. Butler, Stirling, Ont.; Jas. E. Catlin, Shakespeare, Ont.; Harry E. Carpenter, San Francisco, Cal.; Charles Chrisman, Sharon Centre, Ohio; Eli Chrisman, Sharon Centre, Ohio; Matthew C. Crawford, Whitby, Ont.; H. E. Delavergne, Kirkland, Ill.; Perry K. Dreibelbis, Lenharts-ville, Pa.; Thos. G. Duff, Cookstown, Ont.; John E. Embury, Ingersoll, Ont.; Geo. H. Farnsworth, Chester, Vt.; O. D. Franks, Doylestown, Ohio; A. E. Gable, Meadville, Pa.; P. J. Gallagher, Allentown, Pa.; J. A. Gourlie, Summer Side, P. E. I.; R. B. Grant, Dumblane, Ont.; W. D. Gross, Rutztown, Pa.; F. G. Hall, Southampton, England; Reuben R. Hammond, Villa Nova, Ont.; W. H. Harbaugh, Cumberland, Md.; David W. Hess, Tenton, Ont.; Wilson Huff, Napanee, Ont.; A. L. Hunter, Hector, N. Y.; Jos. W. Ireland, Laskay, Ont.; Wm. J. Johnson, Summerville, Ont.; Wm. J. Johnson, Croton, Ont.; Thos. E. Jones, Granville, Ont.; Wm. Kenny, Lindsay, Ont.; John Lawson, Almonte, Ont.; Jas. A. Lee, Belleville, Ohio; John B. Lindsay, Hockley, Ont.; Angus McDonald, Metcalfe, Ont.; Geo. McGillivray, Whitby, Ont.; Duncan E. McLean, Pilot Mound, Manitoba; Frank D. McMahon, Chicago, Ill.; John A. McTaggart, Milton, Ont.; Archibald G. McVean, Woodbridge, Ont.; F. Matthews, Northampton, England; Joseph N. Medill, Huston, Ont.; Richard J. Michener, Waynesville, Ohio; Geo. D. Miller, Rix Mills, Ohio; Joshua Miller, Mooresville, Ont.; John D. Milne, Claremont, Ont.; Thos. Alex. Milne, Claremont, Ont.; Wm. C. Mitchell, Tilsonburg, Ont.; A. H. Moody, Grand Rapids, Mich.; Geo. C. Moody, Leslie, Mich.; W. W. Munger, Galesburg, Mich.; C. E. Munn, Lowell, Mass.; Jos. T. Natress, Woodbridge, Ont.; W. D.

Paxton, Fredericksburgh, Ohio.; Harry B. Platt, St. Louis, Mo.; Chas. H. Pierce, Grand Rapids, Mich.; Samuel E. Queen, Mechanicstown, Ohio.; R. J. Quin, Edmonton, Ont.; Thos. W. Scott, Duncreif, Ont.; Wm. R. Shannon, Rosemont, Ont.; W. S. Shimer, Jr., Shimersville, Pa.; Geo. Standish, Esquesing, Ont.; William Stevens, St. Mary's, Ont.; Walter S. Tomlinson, North Henderson, Ill.; Geo. Waddle, Port Dover, Ont.; Alias S. Walmer, Harrisburgh, Va.; Lewellyn D. Williams, Pontypridd, S. Wales; Wm. J. Wilson, London, Ont.; Wm. Wilson, Ballymony, Antrim County, Ireland.

PRIMARY EXAMINATIONS.

William Appletee Agnew, Ireland; F. F. Hoffman, Brookville, Pa.; John R. Sitterly, Scranton, Pa.; J. B. Whyte, Port Hope, Ont.

PRIZE LIST, SENIORS.

Pathology.—Silver medal, W. H. Harbaugh; second prize, T. S. Butler; third, Charles H. Pierce and J. A. Lee, equal. Honors, F. A. Bolser, C. B. Burger, H. Carpenter, P. K. Dreibelbis, J. E. Embury, G. H. Farnsworth, A. E. Gable, P. J. Gallagher, W. D. Gross, F. G. Hall, R. Hammond, D. W. Hess, A. L. Hunter, J. Ireland, Geo. Gillivray, D. E. McLean, J. Medill, G. D. Miller, Joshua Miller, H. Platt, George Standish, W. Shannon, W. Stevens, W. H. Tomlinson, W. J. Wilson.

Anatomy.—Silver medal, T. S. Butler; second prize, Harbaugh; third, Medill. Honors, Agnew, Bolser, Callin, Carpenter, Dreibelbis, Embury, Farnsworth, Hunter, Hammond, Hess, Ireland, Jones, Lee, Joshua Miller, Munn, G. C. Moody, W. Mitchell, D. E. McLean, Pierce, Platt, Paxton, Scott, Shimer, Standish, Wm J. Wilson.

Entozoa.—First prize, R. Grant and J. Ireland, equal. Honors, Hall, Harbaugh, Joshua Miller, D. E. McLean, Matthews, Medill.

Microscopy.—First prize, Harbaugh. Honors, Gallagher, Ireland, McLean, Paxton, Pierce, Scott.

Physiology.—First prize, T. S. Butler; second, J. Ireland; third, Harbaugh. Honors, Agnew, Bolser, Callin, Duff, Dreibelbis, Farnsworth, D. Hess, Hunter, Lee, Matthews, Munn, McLean, Miller, Medill, Scott, Standish, Shimer, W. J. Wilson.

Chemistry.—First prize, McLean; second, Harbaugh. Honors, Agnew, Joshua Miller, Medill, Munn, Gallagher.

Materia Medica.—First prize, Buttler and McLean; second, Harbaugh. Honors, Agnew, Ireland and Pierce.

For the Best General Examination.—Gold medal, by Ontario Veterinary College, awarded to T. S. Butler, Sterling, Ont. Honors, G. C. Berger, F. A. Bolser, H. E. Carpenter, G. H. Farnsworth, T. E. Jones, W. H. Harbaugh; J. W. Ireland, C. H. Pierce, William J. Wilson.

JUNIORS.

Pathology.—First, George W. Dickey; second, E. H. Bradley; third, C. L. Smith and George Alexander, equal. Honors, G. H. Allen, Fred. Anderson, M. O. Anderson, H. Bowes, G. S. Cavan, W. Daniels, W. H. Everest, H. Howard, J. F. Jones, W. Joyce, M. Kannon, D. M. Keller, A. King, W. Kirk, T. A. Macauley, T. C. McCahey, J. M. McFarlane, Jr., W. D. McClure, James M. Ramsay, J. J. Shoemaker, John Scott, E. B. Smith, J. Spencer, E. H. Stanley, R. P. Steddom, R. W. Story, T. Williams, J. Williams.

Anatomy.—First prize, silver medal, G. W. Dickey; second, F. E. Anderson; third, J. F. Jones and T. A. Macauley, equal. Honors, Alexander, M. O. Anderson, Bradley, Carnrite, Cavan, Daniels, Everest, Keller, A. King, McFarlane, McQueen, Mack, Manhard, Shoemaker, Stoddem, John Scott, Wallace.

Physiology.—First prize, J. P. McClure; second, M. McFarlane, Jr.; third, F. E. Anderson. Honors, Alexander, Bradley, Dickey, Hall, J. F. Jones, Mack, R. A. McAllister, Shoemaker, Spencer and T. Williams.

Chemistry.—First, W. P. McClure. Honors, Hall, Jones and Steers.

CORRESPONDENCE.

A LEGAL QUESTION.

Editor American Veterinary Review:

Would you kindly say if it is legal for signatures to be attached to diplomas other than those of the examining board? The reason I ask the question is, that during a conversation I had

a day or so ago with Wm. D. Carmody, M.R.C.V.S., he informed me that he had been asked to sign the diplomas of the students graduating from the New York Veterinary College. I asked him if he knew them. He replied he did not, nor did he know where the college was. Although he had been informed it was only a matter of form, he had declined, as he considered it a strange and improper proceeding.

W. H. PENDRY, D.V.S.,
Sec. Alumni Association, A. V. C.

BROOKLYN, March 26, 1885.

[The action of Dr. Carmody was proper. No diplomas ought to be signed except by members of the Governing Faculty.—ED.]

VETERINARIAN WANTED.

Editor American Veterinary Review :

I would like the name of a bright young graduate of the American Veterinary College, who is looking for a good location to practice.

In this place a competent man could do well. No place for poor timber, but a number one man is wanted. I write you by request of some of the largest ore hunters. Please answer, and oblige your obedient servant,

F. J. MACKE.

LEADVILLE, Colo., April 14, 1885.

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of this society was held on Tuesday, April 14, at the American Veterinary College; Vice-President, Dr. Dixon, in the chair.

Members present were: Drs. Coates, Ray, Liautard, Brotherton, Cuff, C. C. Cattenach, W. F. Jackson, Johnson, Dixon, Mustol, Robertson, and Pendry.

Minutes of last regular and special meetings were read and adopted.

On motion, the regular order of business was suspended, to receive report of Board of Censors. On application for membership, they reported in favor of Theo. Birdsall, D.V.S.; Hara Taka Yokura, D.V.S.; Wm. Dimond, D.V.S.; M. Weise, D.V.S., and Geo. S. Bulford, V.S., of New York; Geo. F. Bowers, D.V.S., Brooklyn, and John Lindsay, D.V.S., Huntington, L. I. The application of Wm. Herbert Lowe, D.V.S., of Paterson, N. J., was laid over for proof that he practiced in the State of New York.

The Chairman of the Board of Censors reported that the question of final action in the matter of amalgamation had been referred to them. They had found that the motion made and carried at the last meeting had not been complied with, and recommended that both the spirit and the letter of that motion be carried out before the amalgamation was consummated.

Dr. R. W. Finlay being present, received permission from the Chair to make a statement regarding the report on amalgamation, and in doing so explained how it was that the papers which he had stated were filed, had not been. He had left it to another party, who promised to personally do so, and presuming they had kept their promise, he was led to make the statement he had. If it was still the wish of the Society that the papers should be filed, he would see that it was done.

On motion, both reports of the Board of Censors were received.

On motion, the secretary was instructed to cast a ballot of the whole on those gentlemen whose application for membership had been reported favorably. The secretary reported ballot cast in favor of those gentlemen, when they were declared duly elected.

A letter of application for membership was received from H. J. McMartin, V.S. (Montreal), of Utica, and referred to Board of Censors.

It was moved and seconded that the reading of papers be laid over till the next meeting.

Dr. Johnson objected, but the chair ruled the motion carried, and also that the meeting was adjourned.

W. H. PENDRY, D.V.S., *Secretary*.

REVIEWS AND NOTICES.

FOURTH BIENNIAL REPORT OF THE STATE BOARD OF AGRICULTURE, KANSAS.

This official volume of over 700 pages, kindly sent by W. Sims, Secretary of the Board, contains numerous interesting facts connected with the agriculture of Kansas. The report of State Veterinarian Dr. A. A. Holcombe, is found in the pages of the book, and has already been alluded to in former numbers of the REVIEW.

There will be issued by the New England Publishing Co., Sandy Hook, Conn., during this month, a book entitled "Berlin as a Medical Centre," by Horatio R. Bigelow, M.D., of Washington, D. C. This book will be a complete and accurate medical guide to Berlin, giving instructions in reference to board, clinics, lectures, expenses, etc., and all information that will be necessary for the medical student abroad. The price will be \$2.00.

NEWS AND SUNDRIES.

THE RELATIONS OF MICROBES TO LIFE.—Pasteur read a paper by Duclaux before the Academy of Sciences, which begins thus: "The destruction of the organic matter of the soil by microbes, and the production of a new vegetation on the soil, are two phenomena which always accompany one another. Is there any necessary connection between them? * . * . Can the plant develop in the absence of microscopic beings?" After the recital of some interesting experiments on plant life, Pasteur suggests to Duclaux an experiment on the *role* which microbes play in animal life, viz: That a hen's egg, from the surface of which all germs have been removed, is to be hatched in an eterilized space, fed with eterilized food, and supplied with eterilized air. Pasteur believes that the result will be that the chick will not live, and, in general, that life is impossible without the co-operation of microbes.—*Science*.

VIVISECTION IN GERMANY.—The following is a translation of the text of the regulations respecting vivisection issued by the German government. 1st—Experiments on living animals must only be performed in serious investigations, or for purposes of instruction. 2d—In public lectures such experiments must not be performed, unless they are necessary, for the full elucidation of the subject. 3d—The preparations, as a rule, must be made before the lectures begin, and not in the presence of the audience. 4th—The experiments must only be performed by qualified professors, or by their assistants on their responsibility. 5th—Experiments which will be equally satisfactory if performed on the lower species of animals must not be performed on the higher species. 6th—In all cases where the experiment can be performed without inconvenience under anæsthetics, anæsthetics must be administered.—*Science*.

PREVENTIVE VACCINATION IN INDIA.—Pasteur's system of vaccination for anthrax has been tried with triumphant success by the Indian government, acting on the advice of Mr. J. Mills, the inspector of cattle-disease for Madras. According to the official papers, ponies, donkeys, cows, bullocks, buffaloes, sheep and guinea-pigs have all been protected by vaccination from the con-

sequences of inoculation with virus which proved fatal to unvaccinated animals. A vaccinated pony and a buffalo were sent to a village where there was an epidemic of anthrax; and though they were herded with the diseased cattle, and grazed on the same pastures, they escaped the disease. In Burmah the elephants have been vaccinated with equal success. At first the "vaccine" was imported from France; but the uncertainty of obtaining it pure and efficacious from any one but Pasteur himself has induced the Indian government to fit up a laboratory for the manufacture and dispensing of the fluid in Bengal; and, if that is successful, other laboratories will be founded in other centres. Mr. J. H. B. Hallen was sent, some time ago, to study in Pasteur's laboratory; and the report recommends that all veterinary surgeons should go through such a course of instruction.—*Science*.

TREATMENT OF PAROTID FISTULA BY THE INJECTION OF FAT OR OIL.—Dr. Molliere, of Lyons, France, has resorted to an ingenious device, employed by experimental physiologists, in order to cure an external fistulous opening, associated with one lobe of the parotid gland. His patient was a girl of sixteen, who had submitted to a plastic operation. Dr. M. first dilated the duct of stenson, and reduced the fistulous discharge as much as possible, and then resorted to the plan employed by Claude Bernard for the arrestation of the pancreatic secretion. For this purpose Claude Bernard, according to the *Revue Medicale*, injected melted tallow or butter into the pancreas by the canal of Wirsung, and, succeeding in this way in destroying the functional activity of the gland, he also demonstrated the possibility of destroying the functional activity of the parotid gland in a similar way. To utilize this principle, Dr. Molliere injected carbolized oil into the fistulous tract, and although his first effort was not successful, his second attempt, which was preceded by a dilatation of the fistulous opening, accomplished the desired object, and the wound healed rapidly of itself.—*Western Medical Reporter*.

STRICT SANITATION.—Charles E. Taylor, M.D.F.T.S., in his third paper on "Tropical Therapeutics," points out as the cause of the marked change in the hygienic condition of certain of the West Indies, particularly St. Thomas, which he reverts to as the brightest example of the value of strict sanitation, quarantine

and hygiene it has ever been his lot to encounter. For years it enjoyed the unenviable notoriety of being a hotbed of yellow fever, and where cholera and other diseases stalked rampant. He is somewhat skeptical in regard to the prophylactic value of vaccination with the attenuated virus in yellow fever, and says that pure air along with its twin sister, cleanliness, may be safely put down as the mortal foes to microbes of whatever form and shape in existence, and considers them more certain and safer prophylactics than those advocated by the bactero-maniacal school.—*Chicago Medical Times*. [Might not this theory, properly and thoroughly applied, be of much service in combating the ravaging diseases of our domesticated animals, especially hog cholera? Our own personal observations would lead us to warmly advocate its superior worth. We know that it is admitted by most authorities, so that it is not an original suggestion; but what a travesty it is on science and common sense to advocate the inoculation of a pig in the midst of a filthy sty, or a cow in a noisome stable. ED.]

INCUBATION OF INFECTIOUS DISEASES.—Vacher divides these various periods into five sections, as follows: 1st. *Shortest*—One to four days—cholera (inalignant), charbon, plague, catarrh and dissecting fever. 2d. *Short*—two to six days—scarlet fever, diphtheria, dengue, idiopathic erysipelas, yellow fever, pyrimia, influenza, pertussis, glanders, farcy, grease, croup, puerperal fever. 3d. *Medium*—five to eight days—relapsing fever, vaccination, inoculated smallpox. 4th. *Long*—ten to fifteen days—natural smallpox, varicella, measles, rothelm, typhus fever, typhoid fever, mumps, malarial fever. 5th. *Longest*—forty days or more—syphilis and hydrophobia. Smallpox ceases to be infectious in 56 days after the appearance of the eruption; modified smallpox in 35 days; chicken pox in 17 days; measles in 27 days; rothelm in 14 days; scarlet fever in 49 days; typhus fever in 21 days; typhoid in 28 days, and mumps in 21 days.—*Med. World*.

SALT.—From our familiarity with the value of salt as a condiment, and with its utility in the preservation of meat, it may readily occur to us that there are still other applications of this substance that are worthy the attention of physicians and sanita-

rians. The antiseptic properties of salt suggest a number of useful applications. In surgery, even in very strong solution, it would be harmless and might possibly replace the more active antiseptic in many cases. As a cleansing application to foul ulcers and wounds, salt solutions have been used from the earliest times. In cases of indolent action, with large, pale and flabby granulations, the astringent effect of the salt would doubtless prove of service, as well as in many cases of excessive mucous secretions. Another application of salt certainly merits more extensive investigation, viz: the disinfection of night-soil and other sewage. In cities, a few handfuls of salt thrown daily into the water-closets, and an occasional handful thrown into the wash-basins, would go far, we believe, toward counteracting the noxious effects of the omnipresent sewer-gas, against which sanitary efforts have so long been directed. In the country a quart or more of salt used daily in the privy vaults would serve an equally useful purpose.—*New York Medical Journal*.

EXCHANGES, ETC., RECEIVED.

HOME.—American Farmer, Country Gentleman, Prairie Farmer, Medical Record, Medical Herald, Farmers' Review, Breeders' Gazette, College and Clinical Record, American Agriculturist, Maine Farmer, Science, Home and Farm, Quarterly Journal of Veterinary Science, Turf, Field and Farm, National Live Stock Journal, Home Farm, Druggist Circular, etc.

FOREIGN.—Bulletin de L'Academie de Medecine, Clinica Veterinaria, Revue fur Thierheilkunde und Thierzucht, Veterinarian, Veterinary Journal, Gazette Medicale, Archives Veterinaires, Recueil de Medecine Veterinaire, Journal de Zootechnie, Revue d'Hygiene, Revue des Sciences Medicales, Presse Veterinaire, Revue Scientifique, etc.

BOOKS AND PAMPHLETS.—Fourth Biennial Report State Board of Agriculture of Kansas, Annual Report of Commissioner of the Fire Department of Brooklyn, Catalogue of Washington and Lee University.

JOURNALS.—Northwestern Lancet, Spirit of the Times, Western Rural, New England Homestead, Medical Times, Country Home, American Grange Bulletin, Minneapolis Tribune, Massachusetts State Agricultural Experiment Station, Chicago Medical Journal, Announcement of Veterinary Department of the University of Pennsylvania, Weekly Times, Wallace's Monthly, Photographie Times, Hotel Register, Northwestern Live Stock Journal, Empire State Agriculturist.

CORRESPONDENCE.—W. Zuill, D.V.S.; T.B. Rogers, D.V.S.; Jas. Albright, V.S.; A. W. Hoover, V.S.; W. H. Gribble, D.V.S.; C. C. Lyford, M.D., V.S.; W. Pendry, D.V.S.; D. W. Dixon, D.V.S.; W. Dimond, D.V.S.; E. Mink, V.S.; T. Parsons, D.V.S.; W. D. Critcherson, D.V.S.; J. Benner, V.S.

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A Monthly Journal of Veterinary Medicine and Surgery.

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As we go to press on the 20th of the month, papers for publication ought to
reach us before or on that date.

AMERICAN VETERINARY REVIEW,

JUNE, 1885.

EDITORIAL.

CONTAGIOUS PLEURO-PNEUMONIA.

However gratifying and desirable it might be truthfully to deny or ignore the fact of the presence and extension of this cattle pest, we grieve to say that it has ceased to be in our power to do so. Until a recent period the disease seemed to be disposed to limit its ravages within a comparatively moderate geographical boundary, and altogether to miss the conditions which seemed necessary to enable it to scale the mountain barrier of the Alleghanies. But reports are almost weekly reaching us of its appearance at various points in the Western States, in a form more or less virulent, and with results correspondingly serious.

The infected district can no longer be defined as circumscribed by State lines, and the former list, comprising New York, New Jersey, Pennsylvania, Maryland and Virginia, must now be enlarged by the addition of Ohio, Kentucky, Tennessee, Illinois, and Missouri. Nor can we stop with this enumeration, for unless the information which reaches us from private sources shall prove to be entirely unreliable, the names of several other Western States must soon still further enlarge the catalogue.

The agricultural papers furnish weekly or monthly reports on the subject, with the localities where the outbreaks occur, and keep us well informed of its history, with the various measures

proposed or adopted to meet and combat the evil, and it will not be long, therefore, before we shall be in possession of an amount of knowledge and a mass of suggestion, acquired at the serious cost of a large experience, which will make the history of contagious pleuro-pneumonia in the United States quite as copious and complete as any which has been compiled and furnished by European writers upon the same subject.

That a largely if not a completely successful result is eventually to reward the measures which have been instituted in several of the States for the enforcement of the sanitary means which have been authorized by the State authorities, and whether or not the severe but proper, because necessary, resort to the butcher's knife and the destruction of every newly discovered victim of the disease is certainly to secure the extirpation of the evil, are matters upon which no man can absolutely pronounce. But there are some facts and conclusions which cannot in any wise be ignored or overlooked—to wit, that the people have at length become thoroughly awake to their endangered interests; that they fully realize the serious, and in some cases the ruinous losses to which their property is exposed; that when money is called for to aid in the practical work of carrying into effect the necessary sanitary processes demanded by the occasion, it is freely contributed; and that sensible and intelligent owners of cattle property are wisely looking for advice and assistance to properly qualified veterinary surgeons as their best, if not their only friends and counsellors in what may already, we fear, be denominated a national emergency.

MEDICUS VETERINARIUS AND MEDICINÆ DOCTORIS.

We publish in this number, by special request of the New York State Veterinary Society, a short paper which was read before that body at their last meeting.

The paper had been prepared with the intention of presenting it before a full meeting, but as the attendance on that occasion was comparatively small, its further publication in the columns of the REVIEW was deemed advisable, in order more fully to give effect to the purpose of the author, the society deeming that the

scope of the essay involves not merely the question of adding a supplementary "M.D." to the title of "V.S." or "D.V.S.," but also the general subject of veterinary education, as now organized and conducted in this country. And, indeed, a careful consideration of the paper will show that it is not to the proposed connection of the two titles that allusion is made primarily and strictly, so much as to the possible harm to the veterinary profession which might result from certain prevalent tendencies.

Many reasons are given which may be, and are alleged, in justification of the proposal to appropriate the additional title of "M.D." With some it is a question of personal pride and social standing; with others it is a method of comparison of the advantages and the objections which may be alleged by either profession. With a few it is a method of disposing of some two or three intrusive years of time, in order to overleap an interval and reach the age when, in their own estimation, they may be more sure of acquiring the confidence of the public. With others—and their reason is the best of all—it is a desire to improve their medical knowledge by filling up what they feel to be a deficiency in their education, which sometimes must certainly have been very defective originally, to need improvement in each one of its various branches. It is not a deficiency which is noticeable in anatomy, nor in physiology, nor in histology, nor in surgical pathology, and so on; it is in nothing in particular—it is *in all*; it is on *every subject*.

The paper was intended to show what the author believes to be an error—almost a loss of time, indeed; and while he holds that the title of "M.D." is one of which every man who can fairly acquire it may feel proud, it has seemed to him that there was danger of the commission of an error by certain young American veterinarians with whom the desire of securing an improved education was less the real motive of their aspirations than the gratification of a little personal vanity.

DEATH FROM GLANDERS—HOW TO PREVENT IT.

One more victim to this fearful disease, in the ranks of the veterinary profession, is to be recorded. A young army veter-

inarian, Mr. James Humphries, has recently died from inoculation with the virus while making a post mortem examination. The news of the sad event is found on another page.

And how many more shall we have to report? Glanders is all over our continent. There is not one of the various agricultural reports which does not mention it. There is not one of the agricultural papers, which, weekly or monthly, does not report its existence. Measures are taken. Some quite rigid and satisfactory, others dead letters of no value; and the result is now and then a case of contagion, a case of death in man. Is it not time for our sanitary veterinarians to give their attention to the alarming extent to which the disease is prevailing, and is it not time for the public to be once for all educated to the fact that the disease is equally incurable and contagious in all its stages? We have just before us a statement taken from a Western agricultural paper in Illinois, where the editor of the veterinary columns, to an inquiry as to whether or not glanders can be cured * * * answered "*yes, glanders can be cured in the first stages and sometimes in the second.*" * * * Veterinary answers may do good in agricultural and sporting papers, but the editors of such columns ought to be at least men of education, men who know the subject they are discussing, and opinions like the one referred to ought not to be allowed to be put before the public. The only way in which it seems to us the people could be educated, would be to follow the example so well put in practice in Europe. And that is by scientific, and at the same time, practical conferences, which educated veterinarians ought to be asked to hold in their various states, not only upon that disease but upon all similar ones. Pleuro-pneumonia is now pretty well understood; why? not so much on account of what has been written upon it as to the numerous discourses and public discussions which were held upon it. Why not do the same for all other contagious diseases? Glanders and rabies are among them. Both carry off numerous victims through ignorance of their dangerous powers. Is it not the duty of veterinarians to teach the public what it is so much to their interest to know. We believe it, and we also believe that if this was done, the number of human deaths which have to be recorded, would to a very great extent, be diminished.

ORIGINAL ARTICLES.

SHOULD EXPERIMENTS ON ANIMALS BE RESTRICTED
OR ABOLISHED?*

BY ROBT. MEADE SMITH, M.D., Professor of Comparative Physiology, University of Pennsylvania.

Continued from page 64.

Thus a French commission kept thirty-four vaccinated and twenty-four non-vaccinated cattle in close contact with other animals which were infected with this disease. Of the vaccinated animals only one, *i. e.* three per cent., contracted the disease, while of the non-protected fourteen were affected, *i. e.* 57 per cent. So also in the Veterinary School in Utrecht, twenty-one vaccinated and five unvaccinated cattle were placed in a stable with six animals suffering from contagious pleuro-pneumonia. During thirteen weeks not one of the protected animals was infected, while four of the five non-vaccinated died.

But although these experiments were commenced more than thirty years ago, it is only comparatively recently that their true value has been recognized. Up to 1878 contagious pleuro-pneumonia was so prevalent in Holland that the importation of cattle from that country was strictly prohibited by all its neighboring states. A law was then passed in Holland which made compulsory the vaccination of all cattle in infected districts, and the effect has been that the disease has been there nearly entirely eradicated; in fact this success has been so complete that it was at one time almost impossible to procure fresh lymph for vaccination purposes.

All that could be urged against vaccination as a preventive of this disease was the occurrence of marked inflammatory reaction at the point of inoculation, which is usually in the tail; but the value of the method is now so clearly recognized that tailless cattle are especially valuable. The mortality from the operation,

*An introductory address to the course of lectures on Comparative Physiology. Reprint from the *Therapeutic Gazette*.

according to the statistics published by the Dutch Government, is only four-fifths of one per cent., and since Vorriest and Bruylant, professors in Brussels, have discovered a successful method of cultivating a protective lymph, there is no reason that vaccination, as a preventive of this cattle plague, should not ultimately become a universal method. At present Holland and France are the only two countries where it is compulsory. It is to be hoped other countries will soon imitate their example.

So also swine plague has been found to be due to the presence of an organism of the same character as that of anthrax, and there is every reason to believe that by a similar system of cultivation and inoculation this extremely contagious and fatal disease will be finally subdued.

Again, sheep small-pox resembles the same malady in man, but is not prevented by vaccination. We may with every reason believe that inoculation with the cultivated virus will prove as beneficial in this disease as vaccination in arresting the spread of human small-pox, though as yet all attempts at obtaining a sufficiently attenuated virus have failed.

For a long time glanders was known as a fatal disease to which horses were liable, but it was supposed to be an ulcerous disease of the respiratory organs, due to general causes such as extremes of heat or cold, fatigue, dampness, unhygienic surroundings or insufficient or improper food, and studied in horses alone was supposed to be extended only by a community of the general causes above alluded to. Studied in man alone, its true origin was not recognized, and what we now know to be glanders in man was described as "putrid fever," etc. Rayer was the first to prove, experimentally, that glanders, previously regarded as a non-contagious disease, was communicable from animal to animal and even to man, and by inoculating the discharge from a man suffering from the so-called "putrid fever" into a horse, was able to produce well-defined glanders. Saint-Cyr, after the contagiousness of acute glanders had been recognized, proved that chronic glanders, previously regarded as non-communicable from animal to animal, was also strongly contagious, by inoculating an ass with the fluid from chronic glanders. This animal is strongly

susceptible to glanders virus, and chronic cases in horses, in which the contagion is not strongly marked, if brought into contact with this animal develop a violent form of the disease, which is again transmitted in its aggravated form to horses. Often the only means of forming a diagnosis of this disease, especially in its chronic form, is by inoculation into healthy animals. The value of this diagnostic point cannot be over-estimated, and is alone worth all the experiments that have ever been made on animals; for as glanders is, as yet, incurable, the existence of a single case of unrecognized glanders endangers the life of every animal and man in the neighborhood. But if recognized early in its course, by the timely isolation or the destruction of the subject in which it appears, the loss of immense numbers may be saved.

It has long been known through experiment that tuberculosis, or consumption in cattle, was not only contagious in cattle, but through means of their infected milk or flesh when used as food, was capable of transmission through numbers of species of animals, among whom man does not escape, and the organism, which in all probability is the cause of this disease, has only recently been isolated.

From analogy we may hope that proper cultivation of this virus will add another to the list of diseases which experiments on animals have placed under our control.

The latest addition to the already long list of diseases which have been brought under control through experiments on animals, promises to be the most valuable of all. In the International Medical Congress, which was held this summer in Copenhagen, Pasteur announced the results of the studies which he had been carrying on for the last four years, as to the possibility of preventing rabies. Every disease, and especially such a disease as rabies, immediately makes one think of its cure; but to set oneself forthwith to search for remedies is to expose oneself to what is only too often a fruitless labor. It is in a manner to trust to accident for advance. Better far is it in the first place to study the nature of the disease, its cause and development, with the hope of thereby discovering means of preventing it. The fact that the problem of rabies is no longer insoluble, is distinctly due to these methods.

Thus it has been proved that the virus of rabies always develops itself in the nervous system, in the brain, the spinal cord and nerves, and in the salivary glands, and never simultaneously invades every part. It may, for example, fix itself in the spinal cord and then attack the brain; or one may find it in one or more parts of the brain, and not in others. The sole point in which the virus of rabies is invariably localized in all cases of rabies, and all cases are invariably fatal, is in the medulla oblongata; and if the virus extracted from this portion of the nervous system is inoculated on the surface of the brain of a dog, rabies is uniformly produced. These two facts were the starting point for the discovery of a means of preventing this disease, which never arises spontaneously; but by themselves they would be of minor importance had they not led to the discovery of a method by which the virus of rabies might be so attenuated as to permit of inoculation without producing dangerous symptoms, and at the same time confer complete immunity to the disease. The great difficulty that was met with at the outset of these studies was to obtain some standard by which attenuation of the virus might be recognized; for, as is well known, after being bitten by a mad dog, there is nearly always the greatest difference in the duration of the period of incubation before the disease becomes manifest. Pasteur, however, found that while this period of incubation was very variable, according to the different modes of inoculation, it was uniform when the virus was injected under the arachnoid membrane, the interference with the length of the incubation period after a bite or intravenous injection depending upon the quantity of the virus which reaches the brain, while after inoculation into the brain the incubation is inversely proportionate to the strength of the virus.

Having thus established a means of recognizing degrees of virulence in the poison of rabies, the next step was to artificially produce such an attenuation of virus as to produce no dangerous symptoms, and yet confer immunity from the disease.

Jenner was the first to propound the idea that the poison which used to be called "grease" in horses, but which we now describe as horse-pox, must be attenuated in virulence by being

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transmitted through cows before it could be introduced without danger into the system of man. This led Pasteur to think that the rabies virus might be attenuated by passing it through the bodies of other animals. Many attempts were made, but in the majority of cases, instead of decreasing, the poison gained in virulence. Fortunately, however, in the monkey an animal was found which possessed the peculiarity of attenuating the energy of this virus. Successive transmissions from monkey to monkey produced a virus with a gradually increasing period of incubation on again being transmitted to other animals, though if continued again through a series of animals more susceptible than monkeys to the virus, the original virulence was regained. The application of these facts yielded a method of vaccinating as a protection against rabies. The starting point was one of the rabbits which had been inoculated from monkeys to such a degree that hypodermic or intravenous injection did not cause death. The succeeding protective inoculations with the extract from the brains of the rabbits which had been the subjects of successive transmissions of infection from rabbit to rabbit, proceeding from the first infected.

To demonstrate the truth of the protection against rabies conferred on dogs by this system of inoculation, Pasteur submitted to a commission appointed by the French Minister of Instruction, nineteen dogs thus rendered insusceptible to rabies, while the commission selected nineteen other trial dogs not thus protected. The commission report that in the case of the nineteen trial dogs, of six that were bitten, rabies occurred in three; of seven that were inoculated in a vein it occurred in five; and of five that were inoculated by trephining it occurred in all, while not a single sign of rabies has shown itself in any of the nineteen protected dogs, though they were treated in the same manner as the trial dogs. The commission are at present engaged in experiments as to the insusceptibility to rabies of twenty dogs vaccinated by themselves, but their report has not yet been made public.

Thus we have seen that in clearing up the processes of disease, in devising means of prevention and in limiting the spread of contagious diseases, experiment on animals is absolutely indis-

pensable, both for the good of animals and of man. For if man benefits, so do animals; a discovery which averts disease in one will probably protect others. Every advance in knowledge is a benefit to all.

To prohibit resort to experiment would be at once to doom animals, which we are bound to protect, to the endurance through all time of diseases which might otherwise be overcome. This has been our experience in all diseases which have not yet been capable of experimental study, and we may reasonably hope that the future will greatly extend the scope of our field of action. One thing is, however, sure: Experiment is the only possible avenue by which such success can be reached.

CONTAGIOUS PLEURO-PNEUMONIA.

Thesis presented by W. ZUILL, D.V.S., before the University of Pennsylvania, Medical Department.

(Continued from page 67.)

CASE No. 3.

With the single exception of cough, this animal might have been considered perfectly healthy. She was so extremely wild, that she had to be shot. There was not the slightest ocular demonstration of disease. On opening the pleural cavity a condition very similar, but if possible, more aggravated than in case No. 1 was seen. But the lesions were older and more chronic; there was less effusion in the chest cavity, the fibrous exudate was more organized and not so easily detached as in the other case.

The central portion of the lung was much more advanced than was either the apex or base. On section through the centre of the organ, it was found that the inflammatory condition had gone on to suppuration, forming an immense abscess, filled with pus and pieces of lung tissue, the largest of which weighed about five or six pounds. This large abscess was surrounded by a band of dense connective tissue, in some places over one inch thick. The superior and lateral external walls of this abscess were agglutinated to the adjacent chest walls, indicating that it would sooner or later have discharged itself, possibly through the costal parietes.

. But the invasion of fresh tissue would probably have killed the animal before this could have taken place, it having already begun in the remaining lung, the evidence of which was seen in the deep staining of the tissue, the line of demarcation being very abrupt and well defined. The staining seemed to be due more to the coloring matter of the blood, than to the blood itself.

Having disposed of these cases, we proceeded to the next farm, where five were treated in a similar manner, all presenting more or less, the obvious symptoms of the disease, and the post mortem showing the same characteristic lesions. I shall therefore not describe them in detail. In one case where the temperature was 106°, the visceral pleura was much disturbed with serum forming one large bleb.

The onset of the disease, in the cases quoted, was obscure, and no definite cause could be traced.

Since the outbreak of this disease, September 5th, '83, in this state, 71 animals have died and 16 others are affected, and the prognosis for a speedy termination is unfavorable. The animals usually die of asphyxia.

The blood, however, contains even during life a spherical bacterium, a microcococcus, as discovered by myself in my investigation of this disease, in the pathological laboratory of the University of Pennsylvania, and to which I shall refer later on. But before making the above statement, I wrote to Dr. A. Liautard, Prof. of Surgery and Anatomy in the American Veterinary College, asking if anyone had discovered or described this microbe, as I did not wish to claim anything that rightfully belonged to another.

He writes as follows :

NEW YORK, March 7, 1884.

My Dear Doctor :

I do not know yet, that it has been isolated and cultivated, as those of the other contagious diseases, such as anthrax, hog or chicken cholera. I regret that I cannot give you more positive information, but hope this may be of use to you.

With best wishes, I remain, yours truly,

A. LIAUTARD.

PATHOLOGICAL ANATOMY AND RESUME OF MACROSCOPY AND MICROSCOPY OF THE LESIONS.

From the foregoing record, and from the above observations, (as illustrated by my own microscopic examination) the following may be said in relation to the pathological anatomy of this disease. There are no distinctive or characteristic lesions found on external examination of the dead animal, such as would give any definite idea of the cause of death, or of the nature of the disease. The only prominent symptoms however, are great distention of the belly, frothing at the mouth, and a purulent discharge from the nostrils. The blood is found to be dark or black in color, in a fluid or semi-fluid condition, or in the larger blood vessels, may form soft friable clots, and is loaded with carbonic acid gas. The microscopical examinations, which I made of the blood of animals suffering from this disease, were conducted in the laboratory of the University of Pennsylvania. Some of the examinations were made from animals that had perished of the disease; others were made from the blood taken during life by bleeding at the ear; in other instances the blood was taken while the animal was being slaughtered.

Extreme care was taken to prevent contamination from the air or surroundings. The method of collection and examination were as follows: Sometimes I collected the blood into sealed tubes, by introducing the sealed extremity of the tube into a vein, and breaking off the end of the same within the vessel, in this way the blood was drawn into the tube without the least possibility of contamination; it was then at once sealed. At other times the fresh blood was smeared upon glass covers and rapidly dried. In this dry condition it can be preserved for an indefinite time in clean boxes. If any extraneous matter should fall upon covers prepared in this way, it would at once be recognized as foreign to the dried mass upon the cover, as it would be seen in a different focus, under the microscope, being located superficially. Besides all extraneous germs, or foreign matter, can be easily washed off from the prepared glass covers. The blood thus dried upon these covers was then treated with analine dyes, precisely after the method for staining sputum. For the first dye, analine blue

being usually employed, and for the second vesuvine, which gives the background. The blood collected in the sealed glass tubes was treated and prepared for examination in a similar manner. Examining the blood in such preparations, I observed that the white blood corpuscles were, as a rule, more numerous than normal, and as a constant appearance in the blood of this disease was the presence of a *MICROCOCUS*, this bacterium was found in large numbers, either singly or in pairs, or in torular chains, and most frequently in zooglia masses, this appearance being represented in the accompanying drawing, and from an original preparation, and reproduced directly from the microscope, by the aid of the camera lucida. This spherobacterium is of pale white or yellowish color, and in micrometric measurements, is shown to be on the average one fifteen-thousandths of an inch in diameter. This organism I never failed to find in any of the cases observed by me, either during life or after the death of the animal.

(To be continued.)

INFLAMMATION.

BY E. MINK, V.S.

There is perhaps no topic in pathology that has been so thoroughly investigated as the morbid process known by the term inflammation; yet at the present time it is difficult to give a short and adequate definition of this term. Nearly all, however, who are now regarded as authority on this subject agree substantially upon its processes, products, variations and terminations.

The morbid process known by the term inflammation consists of a succession of changes in the living tissue of the parts affected, and take place in nearly the following order:

First, changes in the blood vessels and circulation; second, exudation of liquor sanguinis, and migration of blood corpuscles; and third, alteration in the nutrition of the inflamed parts.

Recklinghausen, in 1863, discovered the existence of wandering cells in the tissues. This discovery raised a doubt of the correctness of the theories of inflammation advocated by Vir-

chow. The latter held that the essential changes in inflammation took place in the solid tissues outside of the blood-vessels. He maintained that the primary and chief effect of an inflammatory irritant is the excitation of the cells of a part to increased functional and nutritive activity, and that hyperæmia and fluid exudations from the blood are secondary to this excitation.

When Virchow made his investigation on inflammation, but little was known in regard to the migration or wandering powers of white blood corpuscles. He held that all cell elements present in inflammatory exudations were produced by proliferation from the pre-existing cells, most frequently from connective tissue cells.

In 1842 Dr. W. Addison described somewhat incompletely the passage through the walls of the blood-vessels of white blood corpuscles.

In 1846 Dr. Augustus Waller described more fully the same phenomenon. Both these observers concluded that the escaped corpuscles became pus corpuscles. Their observations were but little noticed, and soon forgotten.

Additional and important light on the pathology of inflammation was obtained by Conheim, in 1867, when he made investigations similar to those of Addison and Waller, which verified their observations and clearly established the fact of the emigration of blood corpuscles during the process of inflammation.

Conheim's experiments were made upon the frog, paralyzed by subcutaneous injections of curara. He caused artificial inflammation in transparent tissues, such as the web, tongue and mesentery of the frog.

The first effect of an efficient irritant is dilatation of the arteries, and after a brief interval the veins and capillaries become similarly dilated. Dilatation of the arteries commences immediately after the application of an injury, and slowly increases for about twelve hours, and is "accompanied by an increase in the length of the vessels, so that they become more or less tortuous." At the same time the movement of the blood current is increased. This acceleration in the flow of blood seldom lasts more than an hour. The velocity of the current

then begins to diminish, and may continue until complete stasis in the capillaries is effected. This result is not usual except when the action produced by an irritant is intense.

While the slowing of the circulation continues, the white blood corpuscles are seen accumulating along the inner surface of the veins until they nearly fill them.

The red blood corpuscles also accumulate, but principally in the capillaries. Thus these vessels become almost choked by the suspended movements of these minute bodies. The obstructed vessels cause the circulating current to become slower and slower until in many of the vessels it is almost completely arrested.

The intensely interesting phenomenon of corpuscle migration now takes place. This is the moment in which the eye of the observer will be intently fixed on the outer surface of the vessel. To quote Prof. Conheim's words, "Here and there minute colorless button-shaped elevations spring just as if they were produced by budding out of the wall of the vessel itself. The buds increase gradually and slowly in size, until each assumes the form of a hemispherical projection of width corresponding to that of a leucocyte. Eventually the hemisphere is converted into a pear-shaped body, the stalk end of which is still attached to the surface of the vein, while the round part projects freely. Gradually the little mass of protoplasm moves itself further and further away, and as it does so begins to shoot out delicate prongs of transparent protoplasm from its surface in nowise differing in their aspect from the slender thread by which it is still moored to the vessel. Finally the thread is severed, and the process is complete. The observer has before him an emigrant leucocyte."

Conheim's conclusion drawn from the foregoing facts, is that all corpuscles found in the inflamed tissue outside of the vessels during the first stage of acute inflammation, are those that have escaped from the blood-vessels, as before described. But this does not preclude the probability that they originate, in a later stage of the process, in the manner advocated by Virchow; that is, by proliferation from pre-existing cells, in the tissues outside of the blood-vessels.

Another important process, closely connected with leucocyte migration, is the exudation of liquor sanguinis. This phenomenon has long been regarded as a chief characteristic in inflammation. It is one of the phenomena which could not easily have been overlooked, as without it the pre-eminent symptom of swelling could not well be otherwise explained.

In severe forms of inflammation, red corpuscles also escape from the blood-vessels in much smaller number than white; yet in some instances sufficiently numerous to give to the effusion a hemorrhagic character.

Since the discovery of emigration of blood leucocytes, it has been argued that their escape from the capillaries would be impossible, unless these vessels were porous. It has been held that this could not be, as injections have been made of so-called soluble prussian blue, without the slightest extravasation taking place.

It would seem that if the porosity of the capillaries is a necessary condition in order to facilitate the passage of leucocytes, then the objection is a valid one.

But this objection is answered by the fact that the capillary is not a dead conduit, but a tube of living protoplasm. And that it is not difficult to conceive how the "membrane may open to allow the escape of leucocytes, and close again after they pass out."

The amorphous movements of blood leucocytes is admitted; and it is known that when a mass of protoplasm is separated in two parts, and again allowed to come in contact, they close as perfectly as if they had not been severed.

Furthermore, recent histological examinations have shown that the capillaries are composed of a "thin elastic endothelial membrane, namely, a single layer of nucleated cell plates. This endothelial membrane resembles other membranes in that its cells are united one to another by an albuminous intercellular cement substance, which latter, in nitrate of silver preparations, is seen as dark irregular lines separating the cells."

Sanderson says that "the distension of the capillary vessels, which occurs during inflammation to an abnormal degree, is such as to cause a separation at many points of the intercellular

cement substance. Thus we have formed minute openings, called stigmata, which are gradually enlarged into stomata. Winniwarter found, when such vessels were injected, that an escape of the injected substance may take place through these openings."

If this condition exists during inflammatory action, it is very probable that diapedesis of colored and migration of colorless corpuscles may take place through these abnormal openings, the result of over-distension of the capillary blood-vessels.

Furthermore, Purves has found that the capillary vessels, through which colorless corpuscles have migrated, upon being stained with nitrate of silver, show that the migration is limited to the intercellular cement substance of the endothelial wall.

Before taking up the third important change in inflammation, namely, alteration in the nutrition of the inflamed parts, I will briefly summarize the various processes I have considered in the foregoing.

It has been shown that in inflammation the arteries are first dilated, that this dilatation slowly increases for several hours, that the length of these vessels is increased so that they become tortuous, that the blood current is increased, that this acceleration in the flow of blood seldom lasts longer than an hour, that the velocity of the current then begins to diminish and may continue until complete stasis in the capillaries is the result, that the latter condition is attended with exudation of liquor sanguinis and migration of blood corpuscles. These former constituents of the blood are termed "products of inflammation," and collectively constitute what has commonly been called coagulable lymph.

Perhaps it will be well to state, in connection with the exudation of liquor sanguinis, that the constituents of this fluid resemble the plasma of the blood, except that it contains less albumen. "It contains," says Flint, "the fibrine generators, and in most places finds the conditions necessary for the spontaneous coagulation of the fibrin. A fibrinous effusion is in the vast majority of cases an inflammatory exudation. In simple inflammation of mucous membranes and in suppurative inflammation (abscess), no fibrin is formed."

(To be continued.)

COLICS IN HORSES.

BY MR. LAGUERRIERE.*

(Continued from page 72.)

The differential diagnosis of colics, or more properly, of the lesions of which they are the symptomatic expression, is by common consent of the best qualified practitioners and authors of the first repute, conceded to be a work of exceeding difficulty. But must we, therefore, accept the conclusions of M. Roll, and agree that it can only be reached by studying the progress of the disease, watching its terminations, and waiting for the result of the treatment? To accept a decision like this would be equivalent to a renunciation of our confidence in the treatment of this class of cases, and would reduce our diagnosis to the mere *aposteriori* revelation of a post mortem investigation.

Under these conditions it would be better to accept the opinion of Reynal, who says: "if it is true that in cases of colics we are frequently unable to go back from the symptoms to the determining cause, and to fix positively the nature of that cause, it is at least also true that it is possible, by careful study of all the characters which belong to colics, to form a diagnosis which, if not positive, may be at least, strongly probable, of the nature of the pathological alterations which give rise to it."

It results from these well founded considerations that the diagnosis is, in fact, really possible in a certain ratio of cases, though not in all, just as we sometimes encounter cases of lameness of which it baffles our ingenuity to discover the seat, or correctly to define the cause.

The practitioner who encounters one of these inscrutable cases, should, nevertheless, never hesitate or decline the duty of attempting a diagnosis, and to aim at success, as remarks Reynal, by pursuing both the analytical and exclusive or synthetic processes. He should study the various attitudes of the patients and their different movements and actions, and if it is true that these attitudes and actions are common to the many diseases which

* Translated from *La Presse Veterinaire*.

manifest themselves by colicky pains, they do also in some instances present special characters, which become of indispensable value in aiding us to make our diagnosis full and correct.

In order to complete this part of our paper, it would be necessary to refer separately to each of the abdominal affections which give rise to colics. This, however, would lead us too far, and we can only devote a few words, *grosso modo*, to the more essential characters, and those only for our guidance towards the differential diagnosis, by successively considering each of the groups of the classification we have made.

FIRST GROUP.—This includes the *nervous*, *spasmodic* and *rheumatic* forms of colic, and generally manifests itself a long time after the animal has eaten or drank, and often on returning from a long journey. They are produced by an irritation of the peripheric extremities of the sensitive nerves of the stomachal or intestinal mucous membrane. The pains they produce are partly continuous, but vary in intensity with a duration of two to three hours. The abdomen is retracted, the respiration accelerated, and without dyspnoea; when exercised, motion is not painful, and in some instances seems to afford relief. The diagnosis is easy and the prognosis not serious except in case of possible complications.

SECOND GROUP.—Wind colics or gaseous indigestion are at the head of this list. It is common in cribbers, and furnishes an evidence of the bad condition of their digestive apparatus. There is intestinal pnenmatose at first frequent, becoming more common at a later period, and then occurring after each digestion. A spontaneous cure often occurs or it is relieved by treatment until the day comes when some complication is presented, and the patient succumbs.

It is recognized by the swelling and tympanitic condition of the abdomen, which becomes hard, resisting, and more or less resounding on percussio. This variety of indigestion cannot be mistaken for that complication of tympanites which is a result of serious intestinal affections. The history of the patient will greatly assist in the discrimination and determination of the diagnosis.

Following the wind indigestions, we place collectively all sim-

ple indigestions, or such as are complicated with overloading. Their more common symptoms, of varying intensity, may be enumerated as: an anxious expression of the face; dilated nostrils; head low; dyspnœa; hardness, distention and heaviness of the abdomen; and apparent pain and hesitation in walking. The colics are generally continuous, with violent exacerbations, the patient falling down heavily and complaining loudly. The conjunctivæ are injected, even cyanotic, with a slightly yellowish hue. The mouth is warm; there is frequent gaping and there is constipation and urinary suppression.

As in all gastro-intestinal affections, the lesions are generally common to the entire digestive canal. When, however, the seat of the trouble is principally in the stomach, the dyspnœa is more marked, and efforts at regurgitation are at times observed. When the trouble exists in the intestines, the large colon is the region principally affected and tympanites is rapidly developed, principally in the right flank. Vertiginous indigestions are recognized by the nervous symptoms they give rise to.

In indigestions with overloading, the diagnosis is still somewhat easy. The prognosis must, however generally be a guarded one, on account of the serious complications with which they are likely to be accompanied. These forms of colic are generally observed shortly after the ingestion of food, both liquid and solid.

THIRD GROUP.—When these forms are essential, they appear suddenly in well bred animals or in those of plethoric disposition and in good condition of health.

The congestion which takes place has its seat principally in the small intestines. It is essentially active, and manifests itself in violent pains, with constant struggling; increased, short and accelerated respiration; strong and rapid cardiac contractions, strong, full and accelerated pulse; expression of great suffering in the countenance; abundant perspiration in certain parts of the body; dilated eyes and staring look, with the conjunctivæ red and injected; and ineffective efforts at defecation and micturation. The enterorrhagia is but a complication of the intestinal congestion. It characterizes one of the fatal terminations, and is shown by the general diminution of strength and the pallor of

the visible mucous membrane. The contractions of the heart perhaps increase in intensity, but the pulse becomes depressed, with increased quickening and gradual weakening, until it becomes wholly inpreceptible.

To an experienced eye, this diagnosis is not difficult. The prognosis is always serious, although the intestinal congestion may be treated with success if undertaken at the onset. The treatment produces a greater or less degree of delitescence. When hemorrhage is present a fatal termination is to be looked for.

(To be continued.)

MEDICUS VETERINARIUS AND MEDICINÆ DOCTORIS.

(A paper read before the New York State Veterinary Society,
by DR. A. LIAUTARD, V.S)

In offering you, Mr. President and gentleman, this paper this evening, I wish in the beginning, to make a preliminary statement which I hope will be fully comprehended. I desire to have it understood that I do not present my remarks as coming from one who objects to the means employed in furtherance of the interests of the cause of thorough education. To secure this invaluable acquisition; to perfect himself in his calling; to be able to apply all the means by which he can make himself fully master of his trade, his profession, his calling, is an achievement honorable in itself, and to effect which is perfectly justifiable by all honorable means. But at the present time my object is to suggest for your discussion and judgment the question, whether I am right in my appreciation of the tendency betrayed by many young veterinarians in our day, to endeavor to rush from the halls where they have just graduated as V.S. or D.V.S., directly to the lecture desk, and to become forthwith eligible to a degree of M.D. In other words, is this at the present time, a title which it is indispensable for men in our calling to possess? Is it for the honor of prefixing the M.D. to their D.V.S., or is it their need of a more complete medical education

which urges our young graduates in veterinary medicine to matriculate at a human medical college?

I may be in error, but as the result of much questioning in my own mind upon the subject, I am constrained to give a verdict in the negative. I cannot conceive it otherwise than as a poor compliment to their first *alma mater*, and as proving a want of appreciation of their knowledge and their ability, and of the real importance of their profession. If I am right, it is a step which ought to be discouraged, and if possible, checked, or the veterinary profession must for years to come fail to maintain, as it failed in times past to acquire, the position it ought to occupy, and suffer itself to be thrown back to its old ignoble place in public appreciation.

The past experience of the profession in Europe, whatever faults and misdirections may have characterized it, may always be advantageously studied by the New World. Let me inquire of you, how many veterinarians of the Old Continent do we find possessing the degree of Doctor of Medicine? In Germany, we might perhaps, find a certain number, but it is only recently that in France, a few persons, who by special calling, or under peculiar directions in their daily attendance, have passed the examination for medical doctors, while, so far as I am yet informed, England has not an M.D., M.R., C.V.S., on her long list of veterinary graduates. But have the majority of the veterinarians of Europe failed to appreciate their importance; do we find in England fewer celebrities in veterinary science than in France, and are there less in the last named country than in Germany? What were, or what are the Percivall, Bray, Clarke, Spooner, Williams, Robertson, Fleming, and so many other English veterinarians? What of the Delofoud, Renault, Tonssaint, Nocard, Leblanc, Bouley, and hundreds of other graduates of the French schools? And again, amongst the Germans, how many could we not name, who are not M.Ds, but who still hold a world-wide veterinary reputation?

What does this prove, but the frequent fact that veterinary science furnishes an ample field, and quite sufficiently extensive to enable man to make his name, to fulfil his duties and to pay

all his debts to his chosen profession, if he will but consent to realize his importance and value, and to strive and labor accordingly.

But what is to be done by our young American graduates? For what reason do they desire this new degree? Has one, or have any among those who have obtained their physician's diploma, done anything for the veterinary profession? Have any of those who claim to have "completed" an education, which they must have considered as previously deficient, distinguished themselves by writing or publishing anything that has shown exceptional attainments, or proved the possession of merit over others of their own degree? Has one, or any of their number, brought to the medical world any newer discoveries, propounded any more original theories, or introduced any fresher facts than can be credited to the fact of their *so considered more completed education*? If I am ignorant in this matter, let me know it.

Of course, young veterinarians cannot be considered complete masters of their science. How could it be otherwise with the short term of study, which is considered sufficient by our American institutions? But is it so insufficient, so defective, so unsatisfactory, so incomplete, that a year longer in the lecture room, or a spring session in the dissecting room of a medical college is necessary to make it available?

If we look at an occurrence which recently took place in this city, what would the answer be? A young veterinarian, a graduate of one of the New York colleges, entered a medical college of this city directly after receiving his D.V.S. He worked hard, no doubt; he was a good student at the veterinary, and was bound to be in a medical college. After one year's study of human medicine, he graduated fifth out of a class of 189. Was not that a powerful evidence that his veterinary knowledge, theoretical, if you wish, was all that could be required? Did he not possess, when his degree of D.V.S. was granted, all the essential requirements of general knowledge, of medical knowledge, of the general principles of medical science, and did he not have the essential elements for private study? Of what wonderful use to him was his veterinary education already, and what ad-

vantage would it have been to him if he had worked with it? Will his human medical degree be as useful to him?

Looking a little farther back, do we not find one among us, who to-day counts upon a great future in the veterinary profession—he also has an M.D. Shall we ask him how long he remained with his human medical *alma mater*, and how many lectures he attended there? And when he received his degree, as he desired to do, I am sure he could not help thanking his first medical education, for the teaching he had received at his veterinary *alma mater*, as the source to which he owed his recently obtained degree.

Gentlemen, I believe this step to be an error on the part of young graduates, and one which I think ought to be discouraged. If more education is what is needed; if more perfect knowledge is desired; if a post-graduate school would be thought useful—and it is, perhaps, always useful—well and good; let us have it. But let us obtain it through the proper channel; which is that in which you have already studied. If you intend to become thorough in your veterinary education, go where you can improve yourself in veterinary knowledge. If you feel that your *alma mater*, when making you a V.S. or a D.V.S., has not revealed to you all the secrets of physiology, of practice, of materia medica, of any of the branches of veterinary science, go to another veterinary school if you desire, or study at home. You are in possession of all the elements necessary to improve yourself in your own profession, and the fact of attending a few lectures on human medicine will certainly not be of the great advantage which you anticipate. Be a V.S. in the strict sense of the work. Elevate your profession and your title, and yourself by that title. You can as certainly do it, as those to whom we have already referred, without attaching an M.D to your name.

I know, Mr. President, that the advantages which are gained by the veterinarian who is a physician, in being able to join medical societies, is used by some as a strong argument. But does that stand upon as good and solid ground as at first it seems to? It is, of course, a fact that much information and benefit may be obtained from these sources, but cannot equal benefits be secured

by the formation of veterinary societies? In our days, these organizations are met with all over the country—city, county and State. Veterinary associations exist everywhere. Is it not to these that the veterinarian ought to look for his information? And again, is it a necessity to be an M.D. to attend a human medical gathering? It do not believe it to be so. On the contrary, I am sure that in this city any medical society would kindly listen to a veterinarian, though he might not be a graduate of human medicine. Still, I do not believe that your degree of physicians would open to you the doors of all medical bodies.

To resume: In thanking you for your attention, I consider that it is an error on the part of young graduates in veterinary medicine to expect to improve their veterinary knowledge by attending a medical school, fresh from their veterinary *alma mater*, merely to obtain an M.D. I consider that if further medical instruction is required, it is to a post-graduate veterinary institution that application should be made, and that the qualified veterinarian can make his way through the world, and make for himself a name, by working hard only in his own proper specialty, and that if human medical education is to be of any advantage to him, it can only be under some very few and peculiar circumstances, such as those presented by a few European veterinarians, who in a later period in their life were called upon to fill special positions in some given specific plans of education.

REPORTS OF CASES.

REMOVAL OF A CYSTIC CALCULI.

BY W. D. CRITCHERSON, D.V.S.

A brown mare which I have had in my possession for several years, and who, during that time, until recently, has never been unfit for work, is now worse than useless. Early last fall I noticed that after being driven, she would immediately on being stopped micturate, the act being accompanied by more or less pain, as evinced by expulsive efforts and spasmodic movements of the tail. The urine, when at first noticed, was passed slightly

reddened. As time passed on the symptoms of irritation and pain increased whenever the mare was driven. If driven a short distance, the act of micturation was immediately performed on being stopped.

At such times the irritation manifested was slight and the urine only slightly reddened; but if driven three or four miles the irritation was more severe and the urine was blood-red.

Through the winter the symptoms increased and much curiosity was excited by the mare that passed blood. Wherever she was stopped she left a trail of blood in the snow.

She was finally in such a condition that it was impossible to drive her; even the slightest exertion caused her to pass bloody urine.

She is in excellent condition otherwise; never looked better in her life, but she has not been used at all in some time. Such was the history given me on the 30th of March last, by a gentleman representing a large manufacturing company in a town about thirty miles from this city. Had she been under treatment? "Yes; thought it was kidney trouble and treated for that. What do you think is the matter?"

"Cystic calculi or stone in the bladder."

"Well, come up to-morrow and take it out."

Left town on an early train the next morning and arrived at my destination about seven o'clock.

When the mare was backed out of the stall I found her fat and manifesting every sign of good health.

She was trotted a short distance and then tied on the floor and left quietly. In a few minutes, after one or two ineffectual attempts, manifested by stepping with the hind feet, expulsive efforts and whisking of the tail, she passed about six ounces of urine slightly tinged with blood.

I then gave her, hypodermically, gr. iv. morphia; secured both hind feet with hobbles and a line passed between the fore legs and over the neck.

Giving the line to an assistant, who also held the twitch applied upon her nose, I first passed a soft metal catheter, keeping the end closed, as I did not wish to draw the urine if there should be

any in the bladder, but used the catheter as a sound. On entering the bladder the catheter came in contact with a solid body. There was no urine in the bladder, and on tapping the foreign body the characteristic sound and feeling was transmitted by the metal catheter. Withdrawing the catheter I first emptied the rectum, and then made an examination per vagina, and found that the stone was freely movable within the bladder. I then attempted to dilate the meatus, and in a short time was able to get three fingers into the opening.

But the expulsive efforts became so severe that I gave another hypodermic of gr. ii. morphia. Then with my left hand in the vagina, I introduced with my right a pair of long-handled forceps.

Pushing the stone within the spoon-shaped jaws of the forceps with the fingers of my left hand, I with some trouble removed it. The irritation caused such expulsive efforts that I feared eversion of the bladder. Telling the assistant to pinch the mare across the loins, I threw into the bladder an injection of hot water. The injections were not long retained, but they served the purpose of allaying the irritation and washing out the bladder. The removal of the stone had caused some bleeding, but it soon stopped, and I used injections of warm water and tr. opii. As soon as the expulsive efforts had subsided sufficiently I made another examination. Found no gravel, but as far as my finger could reach the mucous membrane felt thickened and spongy.

After waiting a short time, I again injected into the bladder water acidulated with nitric acid; put her in a warm stall with an extra blanket across her loins. As long as she manifested any irritation of the parts she received tr. hyoscyamus $\frac{3}{4}$ ss. in Or flaxseed tea every two hours.

Light and soft feed. In a few days she resumed her work with no further trouble. The stone is spherical and slightly flattened. Dark, reddish brown externally, but showing a dark mulberry-shaped centre, where the jaws of the forceps have removed the outer incrustation. The centre is hard, but the outer covering roughened, and appearing as little tubercles, is easily broken away.

This external covering, or more recent deposit, is one-eighth

of an inch in thickness. The weight is 1 oz. $5\frac{1}{2}$ dr. Think that fully 2 drs. was removed by the crushing of the forceps. It measures $5 \times 4\frac{1}{2}$ inches. Tested for uric acid with murexid test, but failed to get result. Insoluble in caustic potash; then tested for oxalate of lime. Soluble in mineral acids, and under the blow-pipe got a dark ash, which, when applied to moistened red litmus paper, turned it blue. Also got the odor of burning hair, said to be due to uric acid. I didn't get any results from the murexid test, but think that I have a mixed oxalate of lime calculi.

As this is the second cystic calculi I have removed within two years, should like to hear from some of the brethren and become better informed on the subject.

EXTRA ŒSOPHAGEAL ABSCESS; ULCERATION OF ŒSOPHAGUS.

BY THE SAME.

Jan. 6th, saw four Shetland ponies, one stud and three fillies, recently imported by Mr. F. A. Wells, of this city. Found them all suffering from suppurative climatic fever, with pulmonary complications. All did well under mild stimulant treatment, combined with steaming with vapor medicated with carb. acid and tr. iodine; poulticing the enlarged inter-maxillary glands, and later on evacuating the pus and treating antiseptically.

Sunday, Jan. 25.—Upon placing my hand on the neck of one of the fillies I discovered a tumor. The hair being thick and long had prevented its being noticed before.

Tumor was situated on median line, inferior surface of neck, at the upper third. The left side of the tumor was the most protruded, and the mass was hard, hot and painful.

The trachæ was slightly pushed to the right, although there was no difficulty in breathing, and neither solids or liquids caused dysphagia. Supposing it to be an abscess forming, due to supuration of inferior cervical glands, I bound a large sponge over the enlargement, and kept it saturated with hot water.

Tumor enlarges and breathing is gradually interfered with until Jan. 30, when the little animal is roaring. The enlargement

then extended from the flexure of the neck with the inferior maxillary bone, downwards for the upper two-thirds of the neck.

There was a doughy feeling but no fluctuation. I introduced small trocar and canula; got a few drops of thick pus, made incision of an inch at the point where the incision for the operation of trachæology would be made.

Evacuated about 12 oz. of pus mixed with masticated food of a foetid odor. An exploration with the finger reveals a rupture of the œsophagus, in its upper third, of about an inch. Gave water, and the entire amount taken in at the mouth was collected from the opening in the neck.

Cleansed the wound and reported to owner. As I was obliged to go out of town, did not see the animal till the next day; had the owner's consent to anything that I saw fit, as he considered the case hopeless.

The temperature at this time was $100\frac{3}{4}^{\circ}$. Was thin in flesh, but had no trouble from the inter-maxillary abscesses. Secured the animal, and using a flexible catheter as a probang, found that there was no stricture.

Edges of ulcer felt hard and granular. Concluded that the collection of pus had ulcerated through the coats of the œsophagus.

Enlarging the incision on the median line to about four inches, I cleaned out the food, and then made counter-opening on side of neck in jugular groove in front of vein. This counter-opening was directly over the opening in the œsophagus, and when water was given, it could be seen to escape from the gullet. When the finger was placed over the opening, no water escaped. Dressed antiseptically and packed full of oakum, which was retained by a tent of oakum drawn through the openings in the skin. The ulceration of the œsophagus was left to take care of itself. The animal was then placed in a stall with no bedding. No hay or solid food to be given, and the diet to be wholly liquid, consisting of milk and gruels. In a week's time there was a perceptible closing of the ulcer by granulations, and in two week's time cooked oats and bran was allowed. No attention was paid to the ulcer, further than to keep the drainage good.

The cavity of the abscess was kept clean and packed with oakum twice a day at first, but finally, when it was impossible to get even the tent through, all dressing was discontinued. In a month's time there was no trouble from the escape of food or water, but a fistula had formed at the first incision. The opening on the side of the neck had closed. The walls of the fistula were scarified. Villate's solution, and then a solution of argenti nitratis was injected, and finally the opening was closed. In six weeks from the time of operation the animal was sent to join its companions in the country.

MURIATE OF COCAINE IN VETERINARY PRACTICE—REMOVAL OF A LARGE FIBROMA OF THE EYELID.

By C. L. MOULTON, D.V.S.

I recently had occasion to remove a tumor from the upper eyelid of a horse here in Washington, D. C. After consulting with an eminent ophthalmist in practice here, I concluded to try the new anesthetic "muriate of cocaine;" and I must say the results exceeded my most sanguine expectation. I introduced four drops of a four per cent. solution in the eye by pouring it into the under lid, and after waiting five minutes put a twitch on the subject's nose, and made an incision from above to below at least an inch and a half long directly over the growth to be removed. With a small pair of scissors I then proceeded to enucleate the tumor, which was simply a fibroma well embedded in the tissues of the lid, including the levator palpebræ, a portion of which I was obliged to remove, as well as a part of the conjunctiva lining the lid. At no time did the horse manifest any signs of pain, and at all times since he has allowed the wound to be dressed with a composure which shows plainly that he has no unpleasant recollections of pain suffered at any time during the operation. Of course this is but one case, yet I am satisfied from observation then made that all ordinary operations on the eye can be performed without casting one patient, which I consider a very desirable attainment.

INVERSION OF THE VAGINA.

BY J. BENNER, V.S., OF BERMINGTON, KANS.

On Sunday, April 12th, at noon, was called on by Mr. G., who stated that his man was in from the ranch, 10 miles distant, to inform him that a cow had that morning early thrown out the uterus. Informed the gentleman that having spilled carbolic acid on my hands (causing sores,) I was unfit to take hold of the case, but if he could furnish help I would direct the work.

On arriving at the place found cow recumbent with the presence of a tumor between the labia of vulva as large as a man's head. This was with great difficulty returned. No examination for reason above stated. Administered opii., applied Delwart's Truss, gave directions as to feeding, &c., and left the case.

Saw Mr. G. on the following Thursday, who informed me that the cow was all right.

On Saturday afternoon, April 18th, after I had traveled about 40 miles to see patients, received a message saying that the accident had again happened that morning. Again proceeded to the ranch, found patient as before described; (hands now well). Examination per rectum revealed a foetus the size of a rabbit. This exploded the diagnosis of inverted uterus, and plainly showed it to be one of inversio vagina. Had patient put in stall; posterior parts elevated; tumor made clean with tepid aqua, with a little tr. opii. and acid acetic mixed. I then by hard work returned the organ to its proper place; smoothed down all folds that might irritate and cause straining; then put two strong sutures through the lips of the vulva. Patient continued to strain despite my efforts to stop it by opii. q. s. I then made two small incisions through the skin one-fourth inch apart on the back a few inches anterior to the tail, and put a small stick through the opening; this seemed to have the desired effect of stopping the straining. Patient commenced eating, and seemed as well as ever. Gave instructions as to medicine in case of straining or uneasiness, and left for home, feeling satisfied that the case would not require any more attention, only proper care and feed. But imagine the disappointment next morning (Sunday) when I was called out before

breakfast only to learn that the accident had happened the third time.

Having a mule in the barn to operate on that morning, and considerable other work to do, it was impossible for me to see the case before middle of afternoon, when I found patient recumbent and suffering terrible pain; evidently could not last long unless relief was soon afforded; administered opiates. Examination showed the tumor much enlarged and lacerated, leather colored, and pressing heavily on the urethra, bladder filled to its utmost capacity. By holding up the tumor I was enabled to empty the bladder, this gave relief; did not attempt to return the vagina in its lacerated and swollen condition. Resolved to amputate at once, etherized the patient, ligatured the entire inverted mass close to the vulva, made it as tight as two strong men could draw it, and proceeded to cut, tying the blood-vessels as I came to them; just as I finished cutting the patient rallied, struggled and strained violently, the main ligature came off, and with it inverted uterus containing foetus. This I returned to its place, was not exposed a second, and injected cold water with astringent. Hemorrhage soon ceased. Patient got up without assistance, drank a little water, and picked some hay; gave an opiate dose and some laxative medicine. Left some stimulating medicine to be given during the night, with directions to give some feed if patient would eat, if not to give some gruel, and take the best care possible.

Saw patient at 10 a.m. Monday. Rain had set in the night before; she had become damp, and having had no clothing had chilled; had had no medicine or anything since I left the evening before. Gave stimulating medicine, could not procure any clothing, and only a little corn meal for gruel. This patient seemed to relish, but under the circumstances I gave up hope; it was too far away for me to give the case the attention it needed, and it may be that all the care and attention that could have been given under more favorable circumstances would not have saved life.

Do not want to throw any discredit on Mr. G., who is a banker here, and plenty of business to attend to, and, I presume, would supply all wants at the ranch if the same were made

known to him. I learn this Tuesday evening that the cow is dead, and the medicine returned does not indicate that she died from over-doses.

AMERICAN VETERINARY COLLEGE.

HOSPITAL RECORDS.

SENILE FRACTURE OF THE LAST LUMBAR VERTEBRÆ.— LUXATION OF THE SACRO ILIAC JOINT.—DEATH.

BY W. DIMOND, D.V.S., House Surgeon.

This fracture occurred in a small chestnut gelding, about twenty years of age, which entered the hospital on the 23d of March and was destroyed on the 31st, after presenting symptoms of progressive paraplegia.

The history of the case was, that about three weeks before his admission he had been either driven or ridden hard by the owner; that he was put into stable, being apparently as well as usual, and that the next morning he was found quite stiff behind. Dr. Liantard was called, and from the symptoms presented made a diagnosis of sprain of the muscles of the lumbar region, the psoas muscles being probably also involved. The animal was placed under treatment, and after ten or twelve days was so much improved that attendance was discontinued. Rest and short, careful walking exercise were recommended. During the whole time he had been able to lie down and get up without any trouble.

Some ten days afterwards, word was received that the animal was much worse again, being very lame in the near hind leg, suffering with lancinating pains, and apparently moving with great unwillingness. On backing him out of his stall to examine him, the animal slipped and fell on his left side. He made several attempts to rise but failed; being able to raise his front parts, his hind quarters remained on the ground, the animal assuming the dog-sitting position. Another attempt, however, enabled him to rise on his hind legs, in the manner of a cow, but he was then

unable or unwilling to raise the front part of his body. With much assistance and trouble, he was however, put upon his four legs. It was then found, on moving him, that much stiffness existed in the near hind leg, and that the stifle joint was much swollen and tender, and complications of lameness of that articulation were looked for as a proper diagnosis. It was then that he entered the hospital. A blister of oil of cantharides was rubbed on the joint and a small dose of aloes, 3 v given, which produced a very severe effect. The animal was now placed in slings, no noticeable change having been observed.

Upon coming into the hospital on the morning of the 30th the animal was found to be lying down in the slings. He refused to get up, and it was with difficulty that he was raised on his four extremities. Then he would stand upon them but for a moment, and fall down at the first move asked of him. He was entirely paralyzed behind. The case was complicated with meningitis. Examination of the retina seemed to reveal an injected condition, which, with the difficulty that the animal exhibited to drink when water was offered to him, rendered justifiable a diagnosis of cerebro-spinal meningitis. Treatment in that direction was prescribed, but the animal rapidly grew worse, and becoming delirious, was destroyed.

Post mortem.—On opening the abdominal cavity, its contents, in a healthy condition, were removed. The sub-lumbar region on both sides, and extending downwards alongside the anterior outlet of the pelvis, was the seat of a bloody infiltration, forming a large clot on each side of the median line, about nine inches long and four inches wide. This was situated outside the peritoneum and the psoas muscles. These were softened and easily torn. On being removed they uncovered a fracture of the last lumbar vertebra, with a laceration of the ligaments of the sacro-iliac articulation. The articular surfaces of the sacrum were deeply ulcerated. The left femoral nerve was infiltrated. On drying the bones, the vertebra, sacrum and ilium were found much softened. They were very brittle, and crumbled readily between the fingers, assuming the general character of bones in which the earthy salts are most prominent, as met in those of old animals.

LARGE MELANOTIC TUMOR OF THE TAIL—REMOVAL WITH THE ELASTIC LIGATURE—RECOVERY.

BY J. W. SCHEIBLER, D.V.S., House Surgeon.

The owner had bought the mare, which is a fine gray animal some ten years old, some three months ago. A short time afterward he noticed a tumor making its appearance on the upper part of the tail, about the sixth caudal vertebra. This he found growing quite fast, and then treated it himself by the repeated application of nitric acid, which in time seemed to cauterize the enlargement, and cause its disappearance. Soon, however, it began to grow again, and to assume such dimensions that he decided to send her to the American Veterinary College for treatment.

When she was admitted on the 5th of April the growth was nearly the size of the two fists of a man, measuring four inches in circumference at the base, which made it look as being pedunculated above the base, enlarging it to such extent that it measured a circumference of over nine inches toward its face. The tumor is slightly soft, irregularly roughened, here and there ulcerated, allowing the escape of a very offensive thin sanious and blackish discharge.

Treatment.—The tail having been carefully washed, and the hairs braided or clipped round the tumor, an elastic round ligature was applied at the base, firmly tightening it by three turns all round, and securing it with a double knot. A dressing of oakum was placed over it, being careful to pack it between the growth and the skin, so as to prevent them from sticking together. A roll of bandage kept the dressing in place.

On the following day, 10th of April, the dressing was removed. It was then found that the process of mortification had scarcely begun on account of the ligature having slipped off. It was then replaced, and the knot more firmly secured; a similar dressing was again put on.

On the 11th the tail had a different aspect, the tumor was noticed softened, diminished considerably in size; it had ulcerated in several places, which seemed to have allowed the escape of much pus, and part of its external covering was removed by the scissors without any sign of pain on the part of the animal. A

carbolic acid dressing was then applied as on the previous day.

On the 13th the growth had yet much shrunk away, and there remained so little of it that the ligature was taken off, and the balance of the peduncle of the tumor dissected out, the edges of the wound being carefully cleaned of all mortified tissue. There remained then on the top of the tail a cavity about $2\frac{1}{2}$ inches long and $1\frac{1}{2}$ wide, and nearly one inch deep. The wound was dressed antiseptically with carbolized oakum and bandage.

From this day till the 24th, when the animal was discharged with a very small superficial ulcer as the remains of her former difficulty, the wound gradually proceeded towards granulation, and with the removal of a few minute specks of melanotic deposits presented no difficulty towards radical recovery. The only fear that can be entertained to that effect is the fact, that though no other growth could be detected upon any part of the body, there existed at the inferior face of the tail a small tumor scarcely the size of a hazel nut, whose growth, after all, as in the history of such degenerations, may be stimulated by the removal of the former tumor.

EXTRACTS FROM FRENCH AND BELGIAN JOURNALS.

BRIGHT'S DISEASE IN THE DOG.

BY M. A. MATHIS.

A setter thirteen years old presented the following symptoms : disposition quiet, capricious appetite, constipation, great thirst, abundant micturition, greatly marked lean condition. A diagnosis of diabetes is made which is not confirmed by examination of the urine—but in both the nitric acid test and heat show great quantities of albumin. After a few days the animal died, and at the post mortem the diagnosis of chronic Bright's disease was confirmed. 1st, general arteritis and periarteritis well marked ; 2nd sclerosis by extension of the vascular lesions ; 3rd atrophy and degeneration, disparition of the epithelium, obliteration of the canuli uriniferi, and formation of miliary cysts. The heart was somewhat hypertrophied and the mitral valve thickened.—*Journal de Zootechnie*.

RECTAL ETHERIZATION.

By M. CAGNY.

This experiment was made on a horse.

A tube Pasteur similar to those used to keep vaccine for charbon was employed, containing thirty grammes of ether. At its mouth an india rubber tube was secured, with a smooth round cannula. The tube was placed in a vase containing warm water, the heat of which stimulated the evaporation of the ether; in a few minutes the animal was sufficiently brought under the influence of anæsthesia without any of the symptoms of excitement observed in cases of etherization by the nose.

In this experiment, the animal standing up, the cannula and the india rubber tube was placed in the rectum; in a few moments the sphincter of the anus was less contracted; the tail powerless, the eyes had lost their bright expression, the animal seemed ready to fall asleep. The assistant at the head claimed to have already smelled the odor of ether, and at that moment the animal was safely thrown down and secured. In this case the anæsthesia is said to have been sufficient to allow the animal to be operated for a keraphyllocele, and to be dressed afterwards without being obliged to have recourse to the fixing of the legs, as is generally required in similar cases.

TRAUMATIC GANGRENE OF THE TONGUE.

By M. BARRIER.

The entire free or anterior portion of the tongue of a dog became gangrenous under a most singular and probably unique condition. It was due to the stricture produced by a portion of the posterior aorta of a horse, which the animal had torn from a piece of meat given to him for food. The *elastic ligature* had allowed the introduction of the tongue through the ring that it formed, and had, by its natural elasticity, compressed—strangled, so to speak—its anterior or free portion. That part had become swollen, œdematous and gangrenous, and the careful examination of the diseased part had failed to expose the cause. The elastic band, which was deeply imbedded in the tissues, which it had already cut nearly through, was not discovered until the examination made at the autopsy.—*Recueil de Med. Vet.*

REVIEWS.

PRACTICAL VETERINARY REMEDIES,

BY G. S. HEATLE, M.R.C.V.S.

This is a little work of over a hundred pages, published by R. Jenkins, Esq., of New York City, describing in a simple and concise manner, some of the drugs most generally used in veterinary practice. It is unfortunate that the author should not have confined himself to the subject of his book entirely, and should have thought proper to complete it by a kind of appendix, which in a few pages, attempt to treat of the diseases appertaining to the lower animals.

TWELFTH ANNUAL REPORT OF THE NEW JERSEY BOARD OF AGRICULTURE.

In this volume will be found the interesting work carried out by the veterinarians attached to the Board of Agriculture of that State. The history of the outbreak of pleura-pneumonia, of glanders and of hog cholera, is fully given, and valuable suggestions are made as to the means of their future prevention.

FIRST QUARTERLY REPORT OF THE KANSAS STATE BOARD OF AGRICULTURE.

By this we receive the information that influenza, pink eye, glanders and scab in sheep, are quite prevalent in that State.

SANITARY LEGISLATION.

RULES AND REGULATIONS GOVERNING QUARANTINE AND THE ADMISSION OF CATTLE INTO KANSAS.

STATE VETERINARIAN'S OFFICE, }
227 KANSAS AVENUE, }
TOPEKA, KANSAS, May 2, 1885. }

WHEREAS, The Governor of Kansas did, by proclamation, on the 15th day of April, 1885, "declare and establish a quarantine against the introduction of all animals of the bovine species

from the following-named places, to wit : All of the State of Connecticut, all of that portion of New York lying south of the north line of the State of Connecticut, all of Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia, West Virginia, Ohio, Illinois, Kentucky, Tennessee, and the counties of Calloway, Boone, Audrain and Montgomery in the State of Missouri ;” and did, on April 28th, 1885, by further proclamation, extend said quarantine so as to include the whole of the State of Missouri, unless all such cattle coming from the above-named localities are quarantined at the point of introduction for a period of 90 days, and retained there until they shall receive a certificate of health signed by the State Veterinarian of Kansas ; and further, that all cattle coming into Kansas from the above-named localities be required to enter the state at Atchison, Leavenworth, Kansas City, or Fort Scott :

Now, therefore, we, the Live-Stock Sanitary Commission of the State of Kansas, do hereby promulgate the following rules and regulations governing quarantine and the admission of cattle into Kansas from the above-named localities, to wit :

First—All cattle coming into this State from localities quarantined against, will be required to furnish the following evidences that they are free from disease :

(a.) Certificate of health, signed by the State Veterinarian of the State from which they came, or by a Veterinary Inspector of the Bureau of Animal industry, or in States where neither of these officers exist, by a Veterinary Inspector named by the Governor of said State.

(b.) Affidavit of two disinterested parties that they have known the cattle in question for a period of four months prior to the date of shipment ; that they have been healthy and exposed to no contagious disease ; and that no contagious disease is known or believed to exist in the county from which they came.

(c.) Certificate of County Clerk of said county, that parties making such affidavit are responsible and reputable citizens of the county.

(*d.*) Affidavit of owner, made at point of entry, that his cattle are the identical cattle described in the foregoing affidavits and certificates; that shipment has been direct and without unloading, except for feed and water, and in cleansed and disinfected cars.

(*e.*) Affidavit of owner that the cattle will be kept separate and apart from all cattle belonging to other parties, for a period of 90 days.

(*f.*) All the foregoing evidence to be submitted, at the point of entry, to the Live-Stock Sanitary Commission, the State Veterinarian; or an authorized inspector of the State, when permit for shipment may be issued.

Second—On all cattle inspected and receiving permit for shipment, a fee of 50 cents a head will be charged.

Third—No railway company doing business in this State will receive for shipment into the State, any cattle coming from the quarantined localities unless accompanied by the aforesaid permit.

Fourth—Cattle not receiving permits, and placed in quarantine in accordance with the provisions of the Governor's proclamation, will be held at the expense of the owner, subject to such rules and regulations as the Sanitary Commission may prescribe.

EXTRACT FROM CHAP. 2, SPECIAL SESSION LAWS OF 1884.

"SEC. 21. Except as otherwise provided in this act, any person who shall violate, disregard or evade, or attempt to violate, disregard or evade, any of the provisions of this act; or who shall violate, disregard or evade, or attempt to violate, disregard or evade, any of the rules, regulations, orders or directions of the Live-Stock Sanitary Commission establishing and governing quarantine, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in any sum not less than one hundred nor more than five thousand dollars."

By order of the Live-Stock Sanitary Commission, State of Kansas.

A. A. HOLCOMBE, *Secretary.*

SOCIETY MEETINGS.

AMERICAN VETERINARY COLLEGE.

The Alumni meeting of the American Veterinary College was held at 11 a.m. on the 4th of March, Dr. R. McLean in the chair. After reading the minutes, the following members answered to roll call:—Drs. McLean, Miller, Johnson, Zuill, Howard, Pendry, Dixon, Hoskins, Ryder, Fields, Allen, Huntington and Kemp.

Under reports of committees, Dr. Coates informed the Association that he had purchased as the Alumni Prize, Billroth's Surgical Pathology, Hill's Bovine Pathology and Robertson's Equine Practice, which was accepted.

The report of the Treasurer showed a much more gratifying statement than for several years, showing a balance on hand of \$22.70.

Under the head of Admission of New Members, the Class of '85 were introduced to the members by a committee composed of Drs. Coates, Howard and Ryder, after which they were welcomed in a few choice remarks of the President.

The following members were chosen for officers for the ensuing year:—President, W. Horace Hoskins; Vice-President, Drs. S. K. Johnson and L. H. Howard; Secretary, W. H. Pendry; Treasurer, Dr. S. S. Field.

Dr. Faneuil D. Weisse, Secretary of the Board of Trustees, then addressed the meeting on the broadening of the work of the Alumni Association, and to accomplish this he strongly urged the creation of Resident State Secretaries, in conjunction with the regular Secretary. His remarks were well received, and an amendment was added to the constitution creating such officers and the appointment of the same placed in the hands of the Executive Committee.

The retiring President then thanked the Association for the honors conferred upon him, and introduced the incoming officer.

The meeting then proceeded to the election of a member to the College Board of Trustees, in place of Dr. C. W. Hall. Several names were suggested, and after some discussion as to the requirements, Dr. W. B. E. Miller, of Camden, was elected for the unexpired term.

The Secretary in a short paper completed his history of the Alumni Association, which was received and ordered to be recorded.

The following members were appointed on the Executive Committee:—Drs. Coates, McLean, Dixon, Miller, Howard, Johnson and Kay, after which the meeting adjourned.

W. H. HOSKINS, *Secretary*.

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of the New York State Veterinary Society was held on Tuesday, May 12th, at the American Veterinary College, New York. The President, Dr. R. A. McLean, in the chair.

The members present were Drs. Burden, Coates, L. McLean, Birdsall, Dixon, Johnson, Liautard, Dimond, R. A. McLean, Bath and Pendry. Dr. Gerth, Secretary of the New Jersey State Veterinary Society, being present on invitation.

A letter was read from Dr. Kay, stating it would be impossible for him to be present to read his promised paper. Dr. Liautard then read a paper, entitled "Medicus Veterinarius and Medicinæ Doctoris."

The reading of the paper was received with marked attention, and no disposition was shown by those present to open a discussion on the subject, but the chair pressing for one, Dr. Coates started it by saying that, as he was one of those referred to in the paper, it was perhaps natural to expect that he would say something. During his remarks, he admitted that some of the facts stated by the essayist were correct, but to some he was obliged to take exception. He contended that he had increased his knowledge by taking up human medicine, particularly in pathology and surgery, yet admitted that, if the course of pathology given in veterinary medicine was equal to that given in human medicine, it would be foolish and a loss of time for a graduate of veterinary medicine to become an M.D. At the same time, he claimed there were many advantages, both social and otherwise.

Dr. L. McLean agreed entirely with the essayist, and took exception to some of the remarks made by Dr. Coates, especially as to the social idea, though he humorously remarked that, if he were in the matrimonial market, he like some others, might possibly take a different view of that point.

Dr. Gerth held with the essayist, though he was able to state from his own knowledge that, in our pathology, we were far behind the French and German schools.

During the discussion, Dr. Pendry said the reading of the paper had evidently done good in bringing to view the weak point in veterinary education. He could see no reason why this could not be remedied; it had been contended that the veterinary schools had not the facilities for giving as perfect a course in pathology as given in human medicine; if this was so, why not veterinary students take that course where necessary facilities were? This was done by other veterinary schools. The chair took exception to the paper read, and gave his reasons. Dr. Liautard replied by saying that he was very pleased to find that the general idea, as laid down in his paper, was so generally agreed with. It was a subject well worthy our serious consideration, and hoped it would receive further discussion at some future time.

A vote of thanks was extended the essayist, and the Secretary was requested to send the paper to the AMERICAN VETERINARY REVIEW for publication.

Dr. R. W. Findlay appeared before the Society to make a statement regarding the amalgamation, during which he said he had taken legal advice as to the form of papers to be drawn up and filed, to properly complete the amalgamation, and had been informed that before any papers relating to any act of each organization could be filed, they would have to be drawn up so as to make each body a party to the same, and signed by the respective officers. Without this, the papers filed would simply be a desire expressed, and not any act.

Dr. L. McLean asked what were the conditions of the amalgamation, and at the request of the Chair, the Secretary said, that all that was now necessary to consummate the matter, was proof that the New York State Veterinary Association had been legally disbanded. Dr. Liautard considered the matter was pretty well understood, and moved that the Executive Committee of both organizations

come together and draw up the necessary papers, and that they be signed by the officers of the Society. This motion being seconded, was put to the meeting and carried.

The Chairman of the Board of Censors said they were not able to report fully on the matters before them at this meeting, at the next meeting a full report would be ready.

Wm. H. McCaldon, M.R.C.V.S., was proposed for membership, and referred to the Board of Censors.

On motion, the meeting adjourned, to meet in Brooklyn, on Tuesday, June 9th.

W. H. PENDRY, D.V.S., *Secretary*.

ANNUAL MEETING OF THE MASSACHUSETTS VETERINARY ASSOCIATION.

The second annual meeting of the Massachusetts Veterinary Association was held at Young's Hotel, Boston, Wednesday evening, April 1st. The President, Dr. W. Bryden, occupied the chair, and there were present thirteen members, viz: Drs. Billings, Blackwood, Bunker, Alderman, Harrison, Osgood, Shally, J. S. Saunders, Sherman, Winslow, Winchester and Howard.

After reading of minutes of the previous meeting, and their adoption, the name of A. W. Clement, V.S., was proposed for membership, his credentials having been previously favorably reported on by the Executive Committee. On ballot he was unanimously elected to membership.

Election of officers for the ensuing year was next in the order of business and resulted as follows, the vote being a unanimous one: For President, F. S. Billings, V.M.; Vice-President, J. S. Saunders, D.V.S.; Secretary and Treasurer, L. H. Howard, D.V.S.; Executive Committee, J. M. Skally, V.S., W. Bryden, V.S., W. T. Simmons, M.R.C.V.S.

On retiring from the chair, Dr. Bryden, in a few remarks, kindly thanked the officers and members for their hearty co-operation in this, the first year's work of our association, and predicted for us a most successful future.

Dr. Billings assumed the chair, and a vote of thanks was tendered the retiring officers.

At the suggestion of the President, it was *voted* that a committee be appointed to consider the matter of procuring a charter for the association. According to the remarks of some of the gentlemen, the present session of the Legislature is already too far advanced to grant a *special* charter, though a charter under the *general laws* may be obtained at any time. The general sentiment seemed to be in favor of a special charter, but after some discussion of the subject it was left to the discretion of the committee appointed, viz: Drs. Bunker, Bryden and Winchester.

Thus far all meetings of the Association having been held in Boston, Dr. Billings suggested that an assembly in another part of the State might be productive of good, by creating in other sections an interest in our work and meetings.

Dr. Winchester suggested as a compliment to Dr. Osgood, of Springfield, who has been a very regular attendant at our meetings, and a much interested member, that the next meeting be held at Springfield. On Dr. Winchester's motion to that effect it was *voted* that the next meeting of this association be held at Springfield. The date of meeting was afterward appointed for May 1st, at 8 o'clock, P.M., Dr. Osgood being asked to make all necessary arrangements for our accommodation, etc. The essayist will be Dr. Billings, who will demonstrate Koch's method of bacteria cultivation.

On motion of Dr. Osgood it was *voted* that the members of the medical profession in Springfield, the Connecticut Veterinary Medical Society, Drs. J. and Geo. Penniman of Worcester, and Dr. Brackin of Pittsfield, be invited to be present.

Dr. Bunker then exhibited a very interesting pathological specimen, viz: An embolism of the femoral artery nearly eight inches in length.

The history of this case in brief is, that about six weeks previous, the animal, a chestnut gelding eight years old, showed lameness in right hind leg. He would start from stable sound, and begin to show lameness when he had travelled about a third of a mile, which lameness kept increasing as he went further, till it became very severe. On being allowed to stop, the animal would raise and lower the leg in an uneasy manner for a few moments, and finally remain quiet. The temperature of this leg being much lower than the other, in fact *cold*.

These symptoms continued with more or less variance for six weeks, when the animal was destroyed, and the post mortem examination revealed the embolism mentioned.

At eight o'clock dinner was announced, and the company adjourned and partook of a very bounteous repast, some two hours being spent at table in consumption of the edibles and listening to very pleasant toasts and after dinner remarks.

The meeting again called to order listened to the reading of a paper by Dr. Harrison on "amputation of the penis." The essayist noted the indications for operation, calling attention particularly to carcinomatous affections.

He then described in detail the *modus operandi*, recommending that the *urethra* be not divided at the point of amputation of the *body* of the penis, but that it be left projecting about an inch, this portion to be divided and the flaps secured back by sutures.

He mentioned four cases in which this operation had been successful and afforded permanent relief; and one case in which the amputation had been effected with the *ecraseur*, dividing the entire structure of the penis at a given point, the result being fatal.

Some discussion of the subject took place, participated in by Drs. Bryden, Saunders, Winchester, Skally, Osgood and Billings, and it was *voted* on motion of Dr. Osgood, that the discussion be continued at the next meeting.

A vote of thanks was tendered the essayist, and the meeting was adjourned.

L. H. HOWARD, *Secretary*.

CORRESPONDENCE.

FORT WALLA WALLA, W. T., May 11th, 1885.

Editor of AMERICAN VETERINARY REVIEW:

DEAR SIR.—I regret to have to announce the death of James Humphries, V.S., of the 2nd U.S. Cavalry, who died in San Francisco on 31st Dec., 1884, from glanders.

Mr. Humphries came to this country from Bloomsbury, Manchester, England, and graduated from the Ontario Veterinary college in 1878.

He moved to Harrisburg, Pa., and soon established an excellent practice.

In 1879 he gave up private practice, and entered the army service, being appointed veterinary surgeon to the 2nd cavalry, and held that position until his death. He was highly respected by the officers of his regiment as a gentleman and skilful practitioner, and in his death the profession has lost one of its most valuable workers. It was Mr. Humphries' great object to promote the interests of the veterinary profession in the army, and had he not been so soon cut off, his efforts must have been successful. While holding a post-mortem on several glandered horses, it is supposed that he became inoculated with the virus through a cut on his finger.

Respectfully,

E. R. FORBES, V.S.,
2d Cavalry U. S. A.

VETERINARIANS WANTED.

CLEARFIELD, Pa., April 15, 1885.

DEAR SIR.—We are badly in need of a veterinary surgeon here. Can you reccommend any one to me? We have no one near this place. A good one can do a good business. Let me hear from you.

Yours,

JAMES L. LEARY.

MANKATO, Minn.

SIR.—I am looking for a regular graduate in veterinary medicine and surgery. The city of Mankato has a population of 8000, and is rapidly increasing, with a large and thickly settled country around it. I was talking with one of the most prominent human physicians, who is largely interested in live stock, and he told me that there was a fortune awaiting such a man, for Mankato is bound to be in time the finest place in the northwest; and I would like to see a thoroughly competent man settle here; his practice would extend from twenty to forty miles around. Hoping to hear from you, I remain yours,

GEORGE RIVERS, Box 710.

NEWS AND SUNDRIES.

MICROCOCOCI IN RELATION TO WOUNDS—ABSCESSSES AND SEPTIC PROCESSES.—In a report to the British Medical Association, Dr. W. Watson Cheyne gives the following summary:

1. There are various kinds of micrococci found in wounds treated antiseptically, differing markedly from each other in their effects on animals. They agree in growing best at the temperature of the body, and in causing acidity and sweaty smell in the fluids in which they grow. The experiments show that cultivations may be carried on in fluids with accuracy, provided the precautions mentioned be observed.

2. The micrococci treated in these experiments grew best in materials exposed to oxygen gas. They grew only with difficulty in the absence of oxygen. Eggs were not good pabulum.

3. Their effect on animals was not altered by growth with or without oxygen.

4. The effects of these micrococci on rabbits and men were not similar, some of the most virulent forms for rabbits causing no deleterious effects in wounds in man.

5. The kidney is apparently an important excreting organ for organisms.

6. Organisms not capable of growing in the blood may yet cause serious effects by growing in the excretory canals. This may explain some cases of pyelitis.

7. Where an organism is not markedly pathogenic, it may be necessary to introduce a large quantity before morbid changes are set up.

8. Suppuration is not always due to micrococci; it may be caused by chemical irritants, such as croton oil.

9. Micrococci are always present in acute abscesses, and are probably the cause of them.

10. In some cases the micrococci are the primary cause of the inflammation and suppuration, as in pyemic abscesses; generally, however, they begin to act after inflammation has been previously induced.

11. This inflammation may be caused by an injury, by the absorption of chemically irritating substances from wounds, by cold, etc.

12. There are several different kinds of micrococci associated with suppuration.

13. Micrococci cause suppuration by the production of a chemically irritating substance, which, if applied to the tissue in a concentrated form, causes necrosis of the tissue, but, if more dilute, causes inflammation and suppuration.

14. The conditions in wounds and abscesses are not the same, inasmuch as in the former there is opportunity for mechanical and chemical irritants to work.

15. There is no reason for denying the existence of "antiseptic" suppuration.

16. Tension may also cause suppuration, but it is perhaps most frequently aided by the growth of micrococci. These organisms need not be of a very virulent kind. It is also probable that the products of inflammation are themselves irritating and capable of exciting or keeping up inflammation.

17. The micro-organisms of septicemia, of pyemia and of erysipelas, are different from one another and from those of abscesses. In erysipelas the micrococci grow in the lymphatic spaces; in pyemia they grow in the blood to form colonies and

emboli; in septicemia they may only grow locally, the symptoms being due to the absorption of their ptomaines; or if they grow in the blood they do not form colonies and emboli. Septicemia may also be due to other organisms besides micrococci.

18. There are no facts to support the view that it is the same micrococcus which, under different conditions, cause these various diseases. The experiments of conversion of innocent into malignant forms, and *vice versa*, are unreliable.—*The Western Medical Reporter*.

CORROSIVE SUBLIMATE AS A SURGICAL DRESSING.—Sir Joseph Leister tells us that several instances have recently occurred of results deviating from his typical experience in antiseptic treatment, such as he was in no way prepared to meet with, and in one case a fatal event ensued. Casting about for the cause of these failures he came to the conclusion, which is a very plausible one, that volatile antiseptics, such as he had been using, principally eucalyptus and carbolic acid, were unreliable, owing to the very fact of their volatility, which not only rendered their proper preparation by the manufacturer very difficult, but also rendered them very liable to lose their antiseptic properties in a very short time, even when properly prepared. Iodoform, as he says, is not so volatile, but his experience does not recommend it as a very efficient germicide.

Dr. Koch's experience with corrosive sublimate, which is non-volatile, caused him to turn his attention in this direction, and his results have been very satisfactory.

Sir Joseph Leister says that sublimate combines with albumen to form not an albuminate, properly speaking, but a simple mixture of the two, and that this mixture is much less irritating than a watery solution of corrosive sublimate; and serum which has been passed in small quantities through a gauze containing sublimate will not undergo decomposition, though inoculated with putrifying materials.

As the result of the discovery of the less irritating nature of the combination of albumen and sublimate, a sero-sublimate gauze has been prepared. Sir Joseph Leister finds that a sero-sublimate

gauze containing two to four per cent. by weight of sublimate is apparently non-irritating; while, at the same time, it is an effectual antiseptic dressing.—*The Western Medical Reporter*.

STATE VETERINARIAN OF MISSOURI.—Dr. Trumbower having declined the appointment as State Veterinarian of Missouri, Governor Marmaduke has tendered the position to Dr. Paquin, a graduate of the Montreal Veterinary College, who has accepted.—*The Breeder's Gazette*.

TAPE-WORM IN LAMBS.—It is reported that heavy losses have been experienced in lambs from tape-worm by the sheep raisers of Colorado.

WYOMING STOCK-GROWERS' ASSOCIATION.—The twelfth annual report of the executive committee and secretary of the Wyoming Stock Growers' Association, as published in the *Northwestern Live Stock Journal*, is full of interest, and shows plainly that this association is fully alive to the dangers from the contagious diseases which threaten its herds. Dr. Hopkins and the association are to be mutually congratulated on account of the efficient work already accomplished.

EXCHANGES, ETC., RECEIVED.

FOREIGN.—Veterinarian, Veterinary Journal, Quarterly Journal of Veterinary Science in India, Annales de Medecine Veterinaria, Clinica Veterinaria, Recueil de Medecine Veterinaire, Presse Veterinaire, Echo Veterinaire, Gazette Medical, Revue d'Hygiene, Revue fur Thierheilkunde und Thierzucht, Journal Zootechnie, etc.

HOME.—American Farmer, Country Gentleman, Prairie Farmer, Medical Record, Medical Herald, Farmers' Review, Breeders' Gazette, College and Clinical Record, American Agriculturist, Maine Farmer, Science, Home and Farm, Turf, Field and Farm, Spirit of the Times, National Live Stock Journal, Home Farm, Practical Farmer, Druggist Circular, Ohio Farmer, Scientific American, Iowa Farmer, etc.

JOURNALS.—Photographic Times, Western Rural, N. Y. Weekly Times, News and Weekly Journal, Commercial News, Howard's Dairyman, Indiana Medical Journal, Health and Home Journal, The National Stockman, Accidents

News, Wallace's Monthly, Farm and Garden, Home Journal, Eastern Medical Journal, Western Reporter, Dairy World, American Sheep Breeder, Democratic Leader, Philadelphia Times, Northwestern Live Stock Journal, Home Farmer, Farm and Fireside, Home Companion, American Poultry Journal, Farmers' Call, Western Plowman, The Medical Chronical, American Garden, Therapeutic Gazette, Northampton Democrat, The Polyclinic, The Rural Home, The Canadian Breeder, Massachusetts Agriculturist, Drovers' Journal, Washington Chronicle, Arkansas Gazette, Kansas City Journal, St. Louis Critic, Chenoa Gazette, The Advance, American Cattle Breeder, Albany Express, etc.

PAMPHLETS AND BOOKS.—Annual Catalogue of the St. Lawrence University, Annual Catalogue of Dartmouth Medical College, Annals of the New York Academy of Science, First Annual Rhode Island Registration Report, Report of Kansas State Board of Agriculture, Urinary and Renal Disorders, by Lionel S. Beale, M.D.

AMERICAN VETERINARY REVIEW,

JULY, 1885.

EDITORIAL.

VETERINARY SANITARY SERVICE—QUARANTINE STATIONS.

Sanitary veterinary science, as recognized in the United States, can scarcely be said to have passed its infancy, and no one need be surprised at the immaturity of its development. It is comparatively but a recent period since our people have learned to appreciate the dangers of contagious diseases amongst our cattle, dangers not alone affecting our own nation, but involving other nationalities as well. Our experience is therefore so new in the use of means for counteracting these dangers, and our attempts to organize and apply the proper veterinary assistance so imperfect and so partial, that the most sanguine expectations can scarcely hope to find at this early date, a veterinary sanitary service which can be compared to similar organizations as they exist in the older European countries; those, for example, of England, France and Germany. The country has, however, been obliged to take some action on the subject, and several attempts to accomplish some useful results have been made, notably by the Treasury Cattle Commission, and the Bureau of Animal Industry. These have been most prominent in the movement, and the quality of the work they have done is now indicated in records, which the reader can consult and study for himself.

One of the new measures instituted by the Treasury Cattle Commission is the formation of quarantine stations, and there can be no doubt that the gentlemen in charge of this portion of the work have exercised their best judgment, and availed themselves of the best means at their command, after acquiring, in Canada as we know, and perhaps in Europe also, all the information accessible to their inquiries.

Quarantine work is undoubtedly one of the most important of all the various incidents of sanitary medicine. If carried properly into effect, it includes the accomplishment of entire and perfect immunity from infection by contagious disease, certified by an absolutely clean bill of health, and it involves the necessity of vigorously correct arrangements, and the employment and work of thoroughly qualified scientific employes, with power and will to carry into effect the most severe and effective of executive measures, when necessary.

In reference to the quarantine stations which have been established, certain pertinent queries may be ventured. Have they accomplished all that has been desired or expected from them, and has there been no disappointment in respect to practical results? Has their organization been reasonably perfect and complete? Has the work they have actually accomplished fully met the contingency for which they were established?

All these are questions which not only the veterinary profession will ask, but which also concern the public at large, and especially that portion of it whose interests are extensively involved with those of the numerous parties engaged in cattle raising. The Wyoming Cattle Growers' Association have adopted the measure best calculated to satisfy themselves upon this point, in organizing a tour of inspection by the Territorial Veterinarian. This gentleman, Dr. J. D. Hopkins, has performed his work and presented his report. Having kindly forwarded a copy to us, we publish it to-day, as coming from one whose experience and active observation, together with his well known impartiality, must impart great value to his statements, and commend his conclusions as worthy of a high degree of consideration. The Doctor finds much that is objectionable in what has been done, and if

the failure that has followed the efforts to prevent the importation of foot and mouth disease, or the spreading of contagious pleuro-pneumonia is taken into consideration, the necessary conclusions must follow that much, if not all, still remains to be done, in the organization of a genuine veterinary sanitary service.

PROGRESS IN OPERATIVE SURGERY.

The progress which scientific operative surgery has made in veterinary medicine since the period when the publication of works on surgical manipulations became more general, has naturally led to the performance of more *heroic* operations than were undertaken for years before. It is in this way that the removal of large goitres, of enormous tumors of all kinds, and many others, have found their way into the ordinary manipulations of practice, and the current records of cases. In a recent communication to the Société Centrale de Médecine Veterinaire (France), a case is reported, which, though not unique of its kind, is nevertheless worthy of serious consideration and study. It is that of the entire removal of the navicular bone, as a consequence of a fracture and necrosis, resulting from a punctured wound. The animal made a comparatively good recovery, and was soon able to resume his work.

We have received from one of our correspondents a note referring to a still more wonderful result, for he reports not only the entire removal of *the navicular bone, but also of the os pedis*, in a valuable thoroughbred mare. It is unnecessary to say that by the exercise of a little generosity the report can be accepted as possibly relating to a portion of the os pedis being removed with the navicular, but certainly not beyond that. The removal of the small sesamoid is by itself a very rare and successful operation. But if complicated with necrosis of part of the os pedis the chances of recovery are very small. But when it comes to a question of the entire third phalanx, there must be an error in the reports, notwithstanding the affidavits of parties undoubtedly honest, but certainly incompetent to judge, with which it is fortified.

CONTAGIOUS PLEURO-PNEUMONIA AND STATE VETERINARIANS.

The subject of contagious pleuro-pneumonia continues to be an interesting one for our western exchanges. And now, added to the reports of new outbreaks at various points, and to the probably exaggerated rumors of its reappearance in Pennsylvania, there is another item, which is of special importance to the veterinary profession. It is contained in a statement in which the honesty of one of our confreres is badly impugned. If our western friend speaks truly, a prominent veterinarian, holding, indeed, a high official position in his own State, with a handsome salary attached to it, has been guilty of a flagrant attempt at imposition in demanding or soliciting a fee for services for which he had already been paid by the State. The charges, moreover, go so far as to allege such an act of trafficking and dickering as the gradual reduction of his original demand of \$200 until it had dwindled down to one-tenth of that amount, or \$20, in full satisfaction of his claim for \$200. He is also charged, in a similar case, with reaching for a mere moiety of the minimum amount previously solicited, and consenting to accept a \$10 fee in similar conditions.

This is quite too serious a charge to be overlooked, and the gentleman against whom the accusation is brought owes it not alone to himself individually, but to the profession to which he belongs, emphatically to refute it. We have no doubt that he will promptly do so.

This subject suggests another important question in relation to the enforcement of sanitary laws in various States. If a clean bill of health is to be required for a lot of cattle going out of every State through which they may have passed, or in which they may have stopped, before reaching their final destination; and if a fee is to be paid for such a certificate, cattle dealers will certainly be exposed to frequent, unnecessary and unjust expense. Cannot this be obviated? We see no reason why it should be allowed to continue. Let us have national legislation on the subject, and let us have State veterinarians subordinate to the national organization. Let us have what we never yet have had, a na-

tional sanitary veterinary service, bureau, organization, or whatever may be its title, in which all veterinarians may be associated, with special powers, under a general national board, but all derived from the central headquarters. And let it be so arranged that the remuneration received by those who are employed be such that, their time and service being given entirely to the performance of their public duties, no other or extra fee could be expected or lawfully received by them.

VETERINARY LEGISLATION IN THE STATE OF NEW YORK.

The Legislature of the State of New York has adjourned, and notwithstanding all the favorable reports, the great expectations and the fair promises in the matter, the bill providing for the protection of the practice of veterinary medicine in the State was not passed. Almost another year must elapse before another attempt can be made. There seemed to be no important objections urged against the bill, which had been duly reported by the committee to which it had been referred, and to all appearances this new failure is due to the mismanagement of friends more than any other adverse cause. There has been on the part of those who were intrusted with the bill, and who had to the last moment made flattering representations of its chances of success, a lack of attention and a culpable neglect of the interests which they had promised, and for which they had been paid, to watch. It is to be hoped that next year the veterinarians of the State of New York will be more successful in gaining friends for the measure, and more fortunate in the selection of its advocates in and out of the lobby.

LEGISLATION AGAINST CONTAGIOUS DISEASES OF ANIMALS IN COLORADO.

We have received from State Veterinarian Dr. Geo. C. Faville, of Colorado, a copy of the laws relating to contagious diseases of animals in that State. We publish an extract from them in the present number. The documents relating to the progress of this

subject in the various States will in future years serve a valuable purpose in completing the history of veterinary medicine in this country. We have already published a number of similar papers, and will be thankful to our readers for any others on the same subject that may have escaped our attention.

NOTICES.

The following postal has been received :

DEAR DOCTOR—Please send my copy of the REVIEW to me at Casino Boarding Stables, 43 Bath Road, Newport, R. I.

As the writer has omitted to sign his name, we are at a loss to know to which of the boarders at the place of entertainment he mentions to direct it. Whichever of them he may be, will he be kind enough to make himself known ?

On account of the expected absence of Dr. Liantard, who is contemplating a short visit to Europe, the August and September numbers of the REVIEW will be published together in the latter month.

ORIGINAL ARTICLES.

REPORT ON QUARANTINE STATIONS.

BY J. D. HOPKINS, D.V.S., Territorial Veterinarian.

Hon. Thos. Sturgis, Secretary National Stock Growers' Association, Chicago, Ill.:

SIR:—Agreeable to your instructions, I have examined the cattle quarantine stations at Quebec, Portland, Boston, New York, Philadelphia and Baltimore, and herewith present for your consideration diagrams of the buildings and yards; their capacity, area of stations and locality; number of cattle quarantined in each station during the past year; manner of business; rules and regulations; how cattle are transported from ship to station and expense thereof; precautions taken for the prevention of the

spread of contagion among the cattle at the station and surrounding country; the number of employes at each station, their duties and salaries; also, letters from eminent veterinarians commenting on the service.

During this investigation I have been received with courtesy by the officials in charge of the different stations, and every facility afforded me in the inspection of buildings, yards, cattle in quarantine and an explanation of their manner of business. I am greatly indebted to Dr. Conture, Superintendent of the Quebec quarantine station, and Dr. Baily, State Veterinarian of Maine; and desire to call your attention to letters herewith submitted from Dr. Williamson Bryden, of Boston; Prof. Chas. P. Lyman, of the Harvard Veterinary College, Boston, Mass.; Prof. Liantard, of the American Veterinary College of New York, and Dr. Gadsden, of Philadelphia, Penn. These gentlemen have had a wide experience in contagious diseases of cattle, and their comments on the sanitary measures adopted by the Federal authorities for the prevention of contagion and on quarantine stations, will prove instructive and interesting.

In 1875 the Dominion of Canada enacted laws prohibiting the importation of cattle from England, because of the prevalence of pleuro-pneumonia and foot and mouth disease among their cattle.

This prohibition proved detrimental to the interests of the Canadian stock growers, and in the following year was modified by imposing a quarantine of eight days on all cattle imported from Europe. In 1879, the period of quarantine was extended to ninety days, counting from the date of leaving Europe.

The grounds selected for the quarantine station are at Point Lewis, opposite Quebec, and cover one hundred acres, divided into thirty-two yards with suitable buildings, which furnish stalls for one thousand cattle; also yards for sheep and swine.

Shippers are required to notify the quarantine authorities by telegraph twelve hours in advance of their arrival at the city, when they have cattle on board. The cattle inspectors examine the cattle on the ship; transfer them to the yard; disinfect the ship, and remove the manure to a safe place. If disease is found

among the cattle on shipboard, such cattle are taken in vans to the yards, and the ship, after disinfection, is not allowed to load cattle for thirty days.

During the past year ten herds of cattle (300 head) arrived at Quebec from England suffering with foot and mouth disease.

Four of these herds (139 head) were consigned to parties in the United States. Thanks to the rigid enforcement of the rules and regulations, as well as the admirable sanitary condition of the station, no contagion spread from the infected herds. This station is surrounded with a high board fence, and the alleys are kept clean and always disinfected after having been used. Importers' men are allowed to care for their cattle, provided they conform to all rules of the station. No visiting among the herds-men is permitted. In case of sickness among the cattle, the superintendent will prescribe. Men in charge of cattle must keep a suit of clothes at the superintendent's office for use when outside of yards. If importers' men fail to observe the rules in regard to cleaning the buildings, feeding cattle, etc., the superintendent will have it done at the expense of importer. Manure is removed daily from buildings and yards, and not allowed to leave the station until disinfected and exposed to the frosts of winter. Any person disobeying rules of the station is subject to arrest. Importers are allowed to buy feed for their cattle in the market at lowest rates.

The superintendent has charge of everything, and he keeps a daily record of any sickness, birth or death; what men are employed, and by whom; also their duties. He examines the cattle daily; attends to the disinfection of ships, yards and buildings. Salary, \$800 per year.

A foreman resides at the station and superintends the men, guards the cattle and carries out orders of the superintendent. Salary, \$600 per year.

An average of fifteen laborers is employed in keeping this station in a good sanitary condition.

Prof. D. McEachran is the inspector in chief, and his duties are a general supervision of the station and attendance in urgent cases. Salary, \$1,500 per year.

At the expiration of quarantine of a herd, they are washed with a weak solution of carbolic acid (1 to 100) and water; all implements are disinfected; the men's clothes are fumigated; the sheds are scraped, washed, fumigated, ventilated, and then white-washed. Bags and halters are retained until after exposure to frost before delivery.

The number of cattle quarantined during the year 1882, 1,209; 1883, 1,867; 1884, 1,607. 1,276 of the cattle quarantined in 1884 were consigned to parties in the United States.

The quarantine station for the port of Portland, Me., is located at Deering, three miles out on the Grand Trunk Railroad, and covers ten acres. There are four buildings, which furnish stalls for one hundred and thirty-five head of cattle. Each barn has a yard of about one acre fenced in.

When this station was established, the Grand Trunk Railroad agreed to transport all cattle arriving at Portland from the ship to the quarantine station, but the Canadian authorities forbid the company to use their cars for this purpose and, as this railroad is under their jurisdiction, they were obliged to obey! Rather odd that the Canadian sanitary laws should extend into the United States; but it is simply another proof that our neighbor is fully alive to the necessity of closing every avenue by which contagion might be imported.

This station is located in one corner of Mr. Shattuck's two-hundred-acre farm and adjoins the public road, and in the midst of a farming district. There is no fence to protect the quarantine from an inquisitive public, or the neighbors' cattle, in the event of a contagious disease being developed in the herds held in this place.

In consequence of the laws of Canada preventing the Grand Trunk Railroad from transporting cattle from ships to the quarantine station, all animals arriving at Portland are obliged to walk over the public highway three miles. The danger from this neglect of sanitary precaution was deeply impressed on the people when, by the arrival, February 2d, 1884, of the steamship "Ontario" from England, a herd of twenty-eight Herefords spread foot and mouth disease to five dairy herds. Very fortu-

nately, the State of Maine was equal to the emergency, through the prompt action of Dr. Baily, State Veterinarian, in the enforcement of quarantine of all herds in that locality. The quarantine, disinfection, treatment of sick cattle and consequential damages paid to the owners of infected herds, cost the State of Maine nearly \$5,000.

Mr. E. F. Thayer, of Boston, is superintendent, and Mr. Shattuck, owner of the farm, is foreman of this station. Dr. Baily's letter in regard to this station is of much importance.

The quarantine station for the port of Boston, Mass., is located at Waltham, seven miles out, on the Fitchburg Railroad, and covers fifty acres. Its twenty-five sheds and yards furnish stalls for six hundred and fifty cattle.

During the past year 2,208 head of cattle arrived at this port, 256 of whom were quarantined on farms outside of the station, or taken to importer's farm direct from the ship on arrival. Cattle are conveyed from ships to the quarantine station by the Fitchburg Railroad, at a cost of \$14 per car to the importer.

This station has no fence on the north side.

Dr. M. Bunker, superintendent; salary, \$1,500. Mr. Sidney, foreman; salary, \$600. Laborers are employed as required. Rent of station \$1,000 per annum and manure to owner of farm. The annual running expenses of this station is about \$4,000.

The quarantine station at the port of New York is located at Garfield, N. J., fourteen miles from the city, on the Erie Railroad, and covers forty acres. Its twenty-four sheds furnish stalls for six hundred and eighty head of cattle. During the past year 1,735 cattle arrived at this port. Cattle are transported from the ship by a barge (furnished by the Erie Railroad) to the Erie Railroad wharf in Jersey City, thence by cars to station. The service of the barge cost \$10, and cars \$10 each, which the importer is obliged to pay. This station is fenced. During the past year this station has been overcrowded, and in some instances cattle have been discharged from quarantine ten to thirty days before the period of quarantine had expired! Other herds arriving in New York have been quarantined at Syracuse, N. Y., Eatons Neck, L. I., Staten Island and Morristown, N. J., by order of the Secretary of the Treasury.

Dr. A. M. Farrington, superintendent, salary, \$1,500 ; and a foreman, \$750 ; two laborers, each \$600 ; rent of station \$1,000 per annum ; manure sold by the government.

I am informed by Mr. Bridge, State Veterinarian of Pennsylvania, that about three hundred head of cattle arrive annually at Philadelphia, and that these cattle are quarantined at the farms of the importers !

Importers give a bond in twice the value of their cattle to faithfully isolate their importations, etc. Mr. Bridge examines the cattle on arrival and at expiration of quarantine, for which service he is paid by the Commissioner of Agriculture, Washington, D. C.

The quarantine station at the port of Baltimore is located at Relay, seven miles from the city, on the Baltimore & Ohio Railroad. This station covers fifteen acres of railroad land, and its fifteen sheds furnish stalls for six hundred and forty-five head of cattle. Cattle are transported from the ship to quarantine station by the Baltimore & Ohio Railroad at \$6 per car, which the importer pays. During the past year seven hundred cattle arrived at this port.

Dr. A. M. Rose, superintendent, salary, \$1,500 ; foreman, \$600 ; rent of station \$225 per annum.

I have given in detail a description of the manner in which the quarantine business is conducted at Quebec, and desire to call your attention to the printed copies of rules and regulations enforced there ; also a copy of the plan of buildings and yards.

Congress appropriated \$50,000 in the spring of 1882 for the establishment of quarantine stations for the reception of all cattle arriving from Europe at the ports of Portland, Boston, New York, Philadelphia and Baltimore, and the work was entrusted to the Treasury Cattle Commission, composed of Prof. James Law, Mr. E. F. Thayer and Mr. J. H. Sanders. These gentlemen visited Quebec in August, 1882, with a view to improve their experience in this particular business by an examination of the Canadian system, so that they might give to the United States an improved service.

The selection of the locations for the quarantine stations in

this country has been most unfortunate, from the fact that in each case it involves an addition expense to the importer in conveying his cattle from the ship to the quarantine station, while at New York and Baltimore importers are forced to convey their cattle through and keep them in a locality where it is well-known that contagious pleuro-pneumonia exists among the native stock.

At these stations no guard is kept to prevent visitors, or visiting between the herdsmen employed in the care of the cattle. No laborers are employed to daily remove manure from the yards. This work is done after the discharge of a herd ; or once in three months. At the New York station, the space between the yards (eighty feet) is utilized to store manure until it can be sold. Most excellent rules and regulations are printed and posted in conspicuous places, but moral suasion is depended on for their enforcement. Importers' men do as they please—come and go without let or hindrance, and would in the event of a contagion being developed, convey the contagion in their clothes.

To illustrate the loose manner in which the United States quarantines are being conducted, allow me to cite Mr. E. Burnett, importer and breeder of Jersey cattle, Boston, Mass. He says: "A herd of valuable cattle were held in quarantine at Waltham, Mass., and when within a few days of being discharged, another had arrived. In this second herd there was a cow in season, which was served by a bull from the first herd !

The discharge of cattle from the New York station before the period of quarantine has expired to make room for incoming herds, is a gross injustice to both parties: 1st. It is an acknowledgment by our authorities that they have no faith in the necessity of isolation of herds coming from foreign infected countries ; and 2d. It is unjust to put fresh animals in yards and buildings not properly cleaned and disinfected, which might be productive of disease.

Again, the quarantine of cattle on importers' farms at New York and Philadelphia is an unjust discrimination, which enables certain dealers to undersell their competitors in the trade, because of the reduced expense of keep during the three months isolation; and in the event of any contagious disease being developed, the danger of it spreading to neighboring cattle is very great.

These irregularities in the quarantine of cattle at Philadelphia and New York have been widely criticised by importers, who, being without "influence," were obliged to undergo all the vexation and expense of a quarantine, admitted by all to be little better than a farce.

The plan by which the yards were built is decidedly objectionable, from the fact that cattle to reach the yards, or going from the yards, must pass through the same alleys, and be loaded or unloaded on cars from the same chutes. Another objection is that the buildings are on the line fence of the yards, instead of being placed in the middle of the enclosure.

No attention is given by the quarantine authorities as to the removal of manure or disinfection of ships after cattle have been discharged from them.

The importation of fine cattle from Europe has done much to improve our native herds and increase their value, but the existence of contagious diseases in different parts of the Old World, and the ease with which they are transported in the avenues of commerce, makes it an absolute necessity, if we would ensure our property in the stock industry, that the United States authorities shall prescribe the conditions under which foreign cattle may enter this country. And it is right that our government should take charge of all cattle coming from infected countries and hold them until, by lapse of time, it is proved that they do not harbor the germs of disease. Then safety should be ensured by the most restrictions on the movements of all employes connected with cattle in the yards, and the enforcement of sanitary measures should be under the supervision of expert veterinarians. The accommodations furnished by the government for the valuable importations entrusted to their care should be ample and above reproach. It is to be regretted that in the creation of these quarantine stations, "parties," instead of science, was the chief consideration, and that their continued mismanagement has forced importers to bring their cattle in by way of Canada.

I would respectfully suggest that the importation of cattle shall in the future only be allowed at two ports—New York and Boston; and that the entry of cattle at all other ports of the

United States shall be prohibited; that cattle entered at these ports shall not be "permitted" until *after* the period of quarantine prescribed by law.

That the quarantine stations shall be made "bonded warehouses," and the veterinary superintendent "storekeeper."

That the Collector of the Port shall have control over quarantine stations as over any other bonded warehouse.

That the "storekeeper" shall attend to conveying cattle from ship to station; disinfect the ship; remove manure to a safe place; employ men to guard the cattle in quarantine; to clean and disinfect station; to enforce the rules and regulations, and be responsible to the Collector for all matters pertaining to quarantine station and cattle.

That the stations at present in New York and Boston be removed to a suitable locality, with water front, that cattle may be landed directly on quarantine ground.

That a sufficient appropriation be made by Congress to carry out the quarantine regulations.

DISEASES OF THE HEART IN DOMESTIC ANIMALS, ESPECIALLY THE HORSE.

BY FR. BLAZEKOVIC.

(Translated by J. C. Meyer, Sr., V.S.)

I.—ANATOMICAL-PHYSIOLOGICAL REMARKS.

GENTLEMEN.—The diseases of the heart are more frequent among the domestic animals than has heretofore been supposed, and many a diagnosis, which has been attributed to other organs of the chest, proves upon close examination, to be an affection of the heart. Innumerable heart diseases are wholly overlooked, especially in practice, where one is not able to investigate, by means of a post mortem examination, the correctness of the diagnosis. I remember to have read in one of the older veterinary pathological works, "that it is of no consequence if the diagnosis of the diseases of the chest be not minutely located, which organ of the chest or which part suffers especially, as the treatment is

the same." Not taking into consideration that such an expression ought not to be found in a work on professional science, it leads the practitioner to culpable negligence and superficiality, which cannot be vindicated, for a special ailment is difficult to diagnosticate. The unitary therapeutics is in this case a model, which is absolutely rejectable.

The heart diseases among domestic animals are most difficult to diagnosticate, nevertheless it is possible to determine the affections of the heart, if one considers all the elements which influence the formation of the affection. It is self-evident a precise consideration of the anatomical, physiological and functional conditions of the heart and the vessels in the normal state is presented, in order to draw a conclusion and a comparison with the abnormal state.

The organism should be an open book before the eyes of the professional man; for a minute deliberation of all the contributing factors in the function of the heart is a *conditio sine qua non* to a diagnosis of the affections of the heart.

I shall therefore endeavor, in the first place, to bring forth all those moments in the functions of the heart's mechanism, which are necessary to the diagnostic fulcrum, and shall, in order to avoid repetitions, confine myself to such arguments only which can suggest such fulcrums.

We shall now pay attention to the normal heart and its functions of a healthy animal.

The heart appears as a hollow muscle freely suspended from the great vessels, the veins and arteries, in the cavity of the chest, and attached by the pulmonary arteries and veins to the lungs, and by the posterior vena cava to the diaphragm. It represents a slightly compressed one freely suspended in the pericardium, with its blunted point on a level with the fifth rib or somewhat behind it, and its base tapering almost circularly under the third to the seventh dorsal vertebræ. The position is by no means to be overlooked, for the slightest deviation must necessarily call forth manifold disturbances of the functions. In consequence of the muscular quality the heart is subjected to all those processes which are common to the muscles. The heart receives its blood

for the nourishment of its substance and the maintenance of its functions through the arteries, originating in the aorta, namely, the right and left coronary arteries. The veins which carry the blood back are the two opening directly into the right auricle.

Another important moment of consideration is the connection of the pericardium with the muscle of the heart. The similarity of the serous parts of the pericardium with the function and construction of the membranes of the organism is of diagnostic significance.

The proportion of weight of the muscle of the heart to the remaining organism varies from one hundred and three to one hundred and seventy-one parts of the entire weight of the body. The heart of horses of one weight does not always weigh the same; it can easily vary to double its size without being atrophied or hypertrophied. In fact, it is larger in thoroughbreds and nobler animals than in common types; a circumstance which ought not to be ignored in reference to the action of the heart.

Particular attention should be given to the diagnosis of the interior lining of the cavity of the heart, the position and construction of the valves and heart valves. The continuation of the inner membrane, which forms the endocardium, is also worthy of attention. The structure of the muscle of the heart, mechanically considered, is of eminent diagnostic interest. The auricles, the point of attachment of the aorta valves, the construction of the fleshy parietes, as also the strong carneous columns on the partition of the auricle at the opening of the posterior vena cava, the tubercle of Lower, which influences the mechanism of the heart, are important. The structure of the thebesic valves is of particular importance to the function of the coronary veins. Furthermore, the construction of the heart valves in the chambers, the auriculo-ventricular, the tricuspid and the semi-lunar valves, are to be considered, which in their changeable effect upon the action of the heart, are of vital importance. In the left ventricle the bicuspid valves and mitral valves, with their strong tendons, are noteworthy.

The anatomical construction also corresponds to the function of the heart, whose final aim it is, on the one hand to convey

vital and nutritious material with the blood to the whole organism, on the other hand to oxydize the previously carbonized blood of the organism through the lungs. The procedure of this process, which is mechanically very complicated, occurs in the following manner:

The action of the heart is explained by two movements, which follow upon one another in regular rhythm. These rhythms, by the active drawing together of the muscular walls, cause contraction of the heart's cavities—systole; and the passive by the relaxation of the muscle of the heart cause expansion of the cavities—diastole. But systole and diastole cannot occur simultaneously in all four cavities of the heart, as the muscles of the ventricles and auricles do not stand in immediate connection, but are separated by the auriculo-ventricular valves. The systole begins at the same time and with the same energy in the two auricles, in order to end simultaneously; it begins at the orifice of the veins and continues forward to the auriculo-ventricular opening; at the same time the ventricle is in a diastole condition. The impulsive force of the auricle is not very great, nor does it require much force; the blood conveyed through the veins, which the impulsive force pumps into the cavities, could reach its destiny without special pressure. Immediately after the systole of the auricle, the systole of the ventricle commences simultaneously and with energy in all parts of the walls of the ventricle. The contraction (systole) of the ventricle lasts somewhat longer than that of the auricles and collapses with its diastole. The diastole of the ventricle follows quickly upon its systole before the systole of the auricle commences; or during a very short time the four cavities of the heart are in a state of relaxation as if for recovery. Thereupon a contraction of the auricles takes place, and the rhythm of the heart's movements takes its progressive course.*

Accordingly there are three tempii of the rhythmical action of the heart to be distinguished. They follow one another in rapid succession: 1—Tempo; systole of the auricle, diastole of the ventricle. 2—Tempo; diastole of the auricle, systole of ventri-

* Cf. Müller, *Function des Herzens*.

cle. 3—Tempo; diastole of the four cavities, relaxation, pause.

This is a short moment of rest in the continual action of the heart, which is, however, indistinct and hardly perceptible:

Chauveau and Marey have graphically represented the rhythm of the action of the heart by means of an apparatus which they applied on horses, connecting the right ventricle through the jugular vein. The knowledge of the variation of pressure is of eminent importance for the diagnosis of heart disease.

Whereas, the systole is noticed in all the cavities of the heart by a sudden and convulsive contraction of the muscular walls; the diameter of the ventricle appears to be shortened during systole, and the heart becomes more round, while during diastole it is oval. During this procedure the form and position are therefore changed, inasmuch as the heart turns from left to right upon its longer axis. The apex of the heart rises somewhat from the sternum, approaches the base of the heart, and is stationed under the centre of the latter. Through the now accomplished relaxation of the muscular fibres the diastole is noticed in all the cavities of the heart. The muscles do not retain their acquired shortness caused by the active contraction, but again assume the length which they had before the contraction. Furthermore, the enlargement of the relaxed chambers is supported by the pressure which the blood, forced into the ventricle, exercises during the systole of the auricle.

(To be continued.)

CONTAGIOUS PLEURO-PNEUMONIA.

Thesis presented by W. ZUILL, D.V.S., before the University of Pennsylvania, Medical Department.

(Continued from page 107.)

This disease, being one in which the lesions are entirely confined to the chest cavity, the pleura is naturally the only serous membrane from which effusion takes place, and here they are most marked, as it is most uncommon to find a large collection of fluid in this place, which seriously complicates the disease. This

fluid is of a viscid yellow color, full of albumen, and coagulates on exposure to air; its quantity is in direct ratio with the amount of lung tissue involved, and is never absent in any case. The cause of this great effusion is due to the mucous congestion which occurs in the inflamed serous membrane. The pleura is inflamed, swollen and thickened, often to an inch or more. The microscopical preparations which I made while fresh showed this thickening to be due to a large deposit of fibrous exudation, heavily charged with lymphoid cells, partly organized and partly soaked or infiltrated by serum, which produced an enormous œdema of this new formed tissue, as well as of the sub-endothelial connective tissue of the pleura proper, so that sections could only be made by means of the freezing microtome. If put in alcohol, the membrane shrunk very much, and thin sections examined under the microscope presented nothing else than a dense fibrillar mass. The liquid when examined under the microscope shows few cellular elements, these being represented by some desquamated endothelial cells, usually fatty, degenerated and some leucocytes. Examination of one of the numerous flakes found suspended in the serum showed them made up of leucocytes, fibrine and multitudes of micrococci. The inflammation first starts in the mucous membrane of the smaller bronchia and air vesicles, which are irritated by the *specific virus* taken in through the respiratory tract. This irritation sets up an inflammation, the product of which is a true croupous exudation, which produces occlusion of the affected vesicles and bronchules, from which the inflammatory product spreads rapidly by means of the lymphatic circulation, which has an extraordinary development in this class of animals. By means of this remarkable lymphatic development in the lungs of the ox tribe, the irritation readily reaches that part of the pleura which is immediately over the seat of the original inoculation, and when once this is established it spreads with amazing rapidity, not only over the sound portion of the lungs, but also by contiguity of tissue to the pleura costalis. When this has taken place the sound portion of the lungs is involved in two directions, centrally and superficially; that is to say, by the broncho-vascular lymphatic circulation, and from the pleura downward into the substance of the

organ, by means of the interlobular and subjacent lymphatics, which are situated within the interlobular connective tissue, thus surrounding the entire lobule; these interlobular lymph spaces are filled with a clear exudation or semi-gelatinous fluid, which gives such a characteristic appearance to this part of the diseased organ. Those distended lymph spaces surrounding a healthy lobule soon cause in it a pneumonia, the product of which is a true croupous exudation, which, filling up the entire lobule, produces what is known as hepatization. On post-mortem examination, these lobules are seen in the various degrees and stages of hepatization, which contrasts strongly with the infiltrated interlobular connective tissue in color, giving that beautifully marked and characteristic appearance known as marbling. With regard to the microscopical appearance of the diseased organs and their containing cavity, it will be seen that the lung is enormously distended by means of the inflammatory product, often to several times its normal size, frequently weighing from sixty to seventy-five pounds. The boundary between the diseased and healthy tissue is very abrupt and well defined. The borders of the diseased organs are rounded off, their angular contour being lost. The pleura is very tense, thickened, and appears as if covered with whitish granulation; beneath its surface may be seen cysts or blebs of lymph and serum, from over-distention of the lymph spaces. The lobules and interlobular connective tissue can be plainly seen through the pleura. The diseased tissue offers little or no resistance to the finger, which passes into the substance of the diseased lung with great ease, showing complete degeneration of all the tissues of the organ. A more or less thin section of such tissue will break with a short fracture. In advanced stages of the disease, the surface of the pleura is covered with organized lymph of variable thickness. The macroscopy of the internal aspect of the chest cavity is similar in many respects to that of the visceral pleura, in which the costal pleura is seen to be very much thickened, as in the former case, and covered by fibrous exudation similar to that already described as covering the lung. Beneath this membrane we have a well-marked œdema neonatorum, forming blebs and sacks of lymph, as in the other case. On this account the

pleura can be readily stripped from the chest walls, and this is taken advantage of by unscrupulous and dishonest butchers, who will remove this thickened and infiltrated tissue, scrape the ribs, and sell the meat as sound. While at the same time it is not probable, or I may say, even possible, that this disease can be produced in man; yet it is nevertheless true that such fevered flesh cannot be, and is not, wholesome and nutritious food, and such should be strictly prohibited by the legal authorities; as, on account of its probable cheapness, this food would be consumed by our most exposed, hardest worked and worst fed classes, whose constitution, physical condition and hygienic surroundings do not fit them to withstand the ravages of disease, and hence, such improper food would be more liable to produce in them conditions not at all conducive to perfect health.

(To be continued.)

• INFLAMMATION.

BY E. MINK, V.S.

(Continued from page 111.)

I now proceed to consider the alteration in the tissues of the inflamed parts. The first question that presents itself is, what effect does the exuded material have on the tissues which contain it? The answer to this question depends somewhat upon the character of the tissue affected, such as the structure and function of parts, whether the tissues are vascular or non-vascular. The vascular tissues include bone and the varieties of connective tissue, the non-vascular, cartilage, tendon, and the cornea.

Pathologists are substantially agreed on one thing, and that is, that although there may be great difference in the structure and function of the parts affected, all are of such a nature as to indicate increased activity of cell life under the stimulating influence of the effused material. The extent of effusion or exudation will vary with the kind of tissue inflamed. "In non-vascular tissues, as tendon, cartilage or cornea, exudation can occur only from neighboring vessels, hence effusion is found outside of the parts." In all dense organs, as liver, kidney and testicles, a large

amount of effusion cannot take place, and what little there is is so blended with the textural elements that it is not apparent as a separate constituent, but simply causes swelling of the organ. Effusion is most prominent in tissues of loose texture, as lungs, serous and mucous membranes.

The increased activity of cell life is manifested by livelier amorphous movements in those which are usually active; and those which normally undergo no alteration in form and are usually inactive, become active, and send out processes in various forms. This activity is usually attended with protoplasmic growth, and by its division or endogenous development new cells are formed.

Now, although the earlier changes in inflamed tissues are those of increased growth and multiplication of cells, yet in the later stages of acute inflammation the changes are in the main characterized by impaired nutrition. These changes in the tissues vary with the character of the inflammation. They may be such as attend those of an intensely acute type, and end in suppuration or terminate in necrosis; or they may be such as attend those of a subacute or chronic character, in which new growth of connective tissue occupies a prominent place.

To follow these changes to their final results would require more time than I felt willing to devote to that purpose; and it would occupy more time in reading than any of you would be willing to devote to listening to it. To exhaust the subject of inflammation in all its details would require almost an interminable effort of even the most accomplished pathologist.

I feel, however, as if I ought not to drop the subject here without saying something about the destructive effects of inflammation. On this topic I propose to read to you the following paragraphs, reprinted from the article on the same subject which appeared in the former editions of Holmes' system of surgery. After pointing out that both for pathology and practice it is needful that the student recognize the reality of destructive changes as an essential part of inflammation, Mr. John Simon, who contributed the article, continues in this masterly strain:

“Let him examine inflamed muscle, as, for instance, in the post-mortem examination of a compound fracture, or of a recently

made stump. He will find the structure weakened, so that it easily gives way with pressure or traction; he will see under the microscope that the substance tends to fall into irregular fragments; that its natural striation is more or less replaced, first by an almost homogeneous appearance, and afterwards by an appearance of aggregated granules; that with these granules of albuminous matter into which the muscle has resolved itself, there is mixed, even from an early date in the inflammation, a noticeable quantity of minute oil-drops; that often these oil-drops appear before the disintegration of muscle has made much progress, and then arrange themselves in such mutual relation, transverse or longitudinal, as to suggest that the sarcoous elements have changed themselves, particle by particle, into oil; that little by little the oil-drops multiply to such an extent as to be the chief visible objects—the limitary membrane of a fasciculus seeming now to be almost filled with finely-divided oil, diffused through some scanty connective albuminous material; that the limitary membrane within which the muscular material is thus emulsioned, tends also itself to undergo dissolution, and let its proceeds confuse themselves with the similar debris of neighboring fasciculi, till more or less bulk of muscle is reduced to a state of oleo-albuminous liquidity.

“And from this point, if the observer have opportunity of watching the changes which lead to convalescence, he will see that gradually the liquefied material diminishes in volume; that in proportion as it vanishes, the adjoining parts adapt themselves to the altered relation; that eventually only a scar-like puckering of substance—a kind of tendinous intersection—remains to mark the place where muscular material has irrecoverably melted away.

“Let him examine inflamed bone, as, for instance, in a carious vertebra. He will see that the structure breaks down under his finger, and offers scarcely any resistance to a knife; that the microscopical texture is rarefied—cancelli canals lacunae being all larger than natural, and the solid framework all scantier; that the material is tending to break into its component parts and to undergo changes which admit of its being removed by the circulation.

“In many cases (for example, under the irritant pressure of an aneurism), he will find that a quantity of bone has thus gone, leaving no trace behind—gone, of course, only after having first become liquid; and it appears that when bone is inflamed, the first step towards this disintegration consists in a breach of the ordinary union between the mineral and cartilaginous constituents, with a primary removal of the former and a chemical change of the latter. If there be discharge from the inflamed part, there will be found in it bits of bone, chemically and microscopically demonstrable.

“Let him examine inflamed nerve, as, for instance, near to where it has been cut in amputation. He will find, says Dr. Lent, the medullary cylinder of each nerve tube falling, as it were, by cross-cuts into irregular pieces—at first large, but as the process advances, getting smaller and rounder, and assuming the character of oil, till at last the tube membrane is filled with oily material, which gradually undergoes removal.

“Let him examine the hard textures of an acutely suppurating joint. He will find the strongest ligaments in course of being reduced to an incoherent state—either actually pulpy and half liquefied and in course of removal, or ready to break with the least traction; he will find, if the inflammation has been primarily synovial, that the cartilage is smoothly melting away at its surface into the fluid which bathes it; or, if the disease have begun subarticularly, that the cartilage, where subjacent to carious bone, is irregularly eroded and perforated; and throughout, with the microscope, he will find, wherever there are evidences of advancing disintegration, that the softening of material is abundantly marked with oil-drops.

“Let him—not in post-mortem examinations, for which there are no opportunities, but during life—observe the results of inflammation of the sclerotic, and ask himself why it is that staphyloma so often follows this disease. He will infer that here, as with other cases which we have considered, the inflammation must have so disorganized the texture, and so enfeebled its normal rigidity, that it can no longer give sufficient resistance to pressure from within, or save itself from being bulged by what

now becomes an almost dropsical excess of fluid secretion within the globe.

“Above all, let him examine the products of inflammation furnished by mucous and serous membranes, and by glands; the expectorations of bronchitis, the hawkings of common throat catarrh, the urine of scarlatina, the acute effusion of serous cavities, and after death the inflamed organs themselves; let him once thoroughly recognize the destructive acts of inflammation, as illustrated in the simple cells of gland or epitheliated membrane, and the whole of this argument will be compendiously before him.

“He will find cells (especially when there are squamous) shed as dead material, without their first undergoing any visible alteration. He will find all others undergoing change in a more or less marked degree—change of which the essence consists in a loosening and eventually a disintegration of texture, with increased imbibability of fluid and gradual accumulation of oil, so that the cell, while undissolved, appears of larger than natural size, its wall less defined, its nucleus dimmer, its contents more granular and oily than in health. Sometimes a cell is thus converted into a mere heap of oil-drops, held together by little intervening or surrounding material; sometimes there will be more albuminous matter, perhaps in a granulated or dotted form; sometimes there will be more evident fluidity of contents; but in any case the cell, if retained within the body, tends to break up and contribute with its neighbors to the making of an oleo-albuminous fluid, in which there exists but scanty and evanescent remains of the original cell structure.”

COLICS IN HORSES.

BY MR. LAQUERRIERE.*

(Continued from page 115.)

FOURTH GROUP.—The diagnosis of colic due to worms is generally easy to fix, and is usually determined by the presence of the parasite, which then becomes rather a sign than a symptom.

* Translated from *La Presse Veterinaire*.

Other symptoms, however, such as the lean condition of the patient; the absence of the natural gloss of his coat; the length and staring of the hair; the pallor of the visible mucous membranes; irregularity of appetite; alternating diarrhœa and constipation, with other not easily defined maladies, all contribute to the formation of a decision.

Colics from poisoning differ, according to the toxic peculiarities of the ingested substances. A knowledge of the history of the case is here of the first importance. As to the intestinal stoppages produced by the retention of accumulations of stercoraceous matter, egagropilo or caleuli, it is very difficult, if, indeed, it be not impossible, to clearly make them out. Stercoraceous obstruction, as we have seen in some cases, may, however, be as readily diagnosed by rectal examination as the presence of other foreign bodies by this manipulation. Stercoraceous colics are generally violent and incessant, and allow no pause or rest to the sufferer. The animal is in most instances constantly stretching himself and making useless efforts to obtain relief; while at other times he appears to experience dull pains, increasing in force and of an intermittent character, and with a constant increase in their frequency. In the cases of egagropilo and calculi, the pains are also intermittent and dull, but there are deceitful remissions of several days' continuance, during which the patient appears really cured. During the accesses of pain the horse lies down very carefully and remains quiet for a long time, stretched on one side. But while on his feet he is constantly pawing and pushing his bedding under him with his fore feet. According to Reynal, this is a pathognomonic symptom of an accumulation of hardened feces in the large cavities of the colon. With the exception of the vermicular variety, the prognosis in these colics is always serious.

FIFTH GROUP.—Displacements of intestinal organs are generally discovered only at the post-mortem. The diagnosis of some forms, however, is known, such as the inguinal and the diaphragmatic. Rectal explorations with external taxis may aid us in detecting the presence of a portion of intestine engaged in the inguinal canal. Auscultation and percussion of the chest, associated with the symptoms of asphyxia, may assist in the discovery of the

diaphragmatic surface. Ventral hernia is easily recognized by its external character. Internal intestinal hernia can only be discovered by an autopsy. Valvulus and invaginations must be matter of conjecture, the proof of their existence being also found only at the autopsy. We have seen, however, some animals suffering from this cause, seeking to obtain some relief by laying on their backs, in a corner of a box stall, with all their extremities brought together and extended upwards. But this symptom has no special or positive signification, and is also observable in internal strangulations and in obstructions. Ruptures of the stomach and of the intestines are all, at times, presumable. Nausea and vomiting may be, and is, at times, though not in every case, followed by rupture of the stomach. Penetrating wounds may sometimes be rationally diagnosed by the presence of the external injuries. Intestinal wounds have occurred as the result of human brutality and cruelty, by the forcible introduction of sticks in the rectum. Rectal exploration will assist in the detection of the solution of continuity in these cases.

SIXTH GROUP.—The affections embraced in this group are little more than complications of those previously noted, and we can only say, in addition to what we have already remarked, that the prognosis is always serious, and that generally a positive diagnosis cannot be made, and all our conclusions must be merely conjectured and presumptive. In none of them is it unusual to witness paroxysms of fury and delirium of the severest character, as the result of the extreme and torturing pain suffered by the patient. The rupture of the stomach, or of the large intestines, may be recognized by the sudden relief, or even complete disappearance of the colics, while at the same time the general sickly condition of the animal either remains unaltered or manifests a tendency to increase. This increase will be marked by the weakening of the pulse; the gradual cooling of the body, and the explorable internal cavities a general, profuse, cold perspiration.

SEVENTH GROUP.—The diseases of this last group have, properly speaking, but a single point of resemblance, viz.: the colic, which is common to all. Their diagnosis properly belongs to the special pathology of the organs severally affected. To recapitu-

late, it must be conceded that there are genuine and serious difficulties in the way of the practitioner who would make a perfect diagnosis, since the pathognomonic symptoms in almost every case are absent. Yet, when in presence of a suffering animal, if the practitioner will bear in mind the data that he must possess in his anatomical and physiological knowledge, and will rapidly, though carefully, analyse the characteristics of the case before him, critically noticing and comparing the positive and negative symptoms, and then weigh the case in his mind and judge the acts in the light of similar other cases within his memory and observation, the experienced and judicious veterinarian may reasonable hope, in many cases, to reach a satisfactory and nearly accurate diagnosis. This, of course, is the important point to reach, in order to establish a proper theory and mode of treatment. It is not enough to relieve the sufferings of the tortured animal; to discover and reach the cause if possible, and to remove it and save the life of the patient—this is the work which the veterinarian must accomplish—"this is what he is for."

(To be continued.)

REPORTS OF CASES.

REMOVAL OF A LARGE MELANOTIC TUMOR FROM THE ANUS AND RECTUM OF A GELDING—RECOVERY—HISTORY.

BY W. A. DIMOND, D.V.S., House Surgeon.

The subject of this operation was a gray gelding, fourteen years of age, belonging to a physician of Jersey City, which entered the hospital on May 11th, 1885.

About four years previous to this the animal had been operated upon at the hospital to remove a melanotic growth on the right side of anus, which was successful, the animal making a nice recovery, having been in good health and performed its work ever since. For the past year it has been observed that a tumor has been gradually appearing on the left side of the anus, until recently, having assumed proportions alarming to the owner, he was again sent here to be operated upon.

Examination, on entering the hospital, showed the anus considerably deformed and protruding irregularly. There was found a large tumor on the left side of anus, which was irregular in shape, and bosselated upon its whole surface. There was also a number of small melanoma, varying in size from a pea to a walnut, along the tail from the base to the end.

On rectal examination, we found the tumor on the side of the anus extended into the pelvic cavity about four inches, and farther inward, as at the end of this, there was another tumor situated in the superior wall of the rectum. On manipulating this last tumor, it was found to be movable from forward backward, and in size about that of a man's fist. Immediately forward of this was another collection of small melanoma. On account of this condition operation was scarcely advisable, and, if successful, could at best be only palliative. The owner, however, decided to make an attempt, and according to his wishes the animal was operated on on the 18th.

Operation.—It was tried at first to operate with the animal standing, after having received a dose of chloral, but this being impossible, he was cast and secured. An incision was then made immediately under the base of the tail, downward, on the left side of the anus, about six inches in length, and the largest tumor was removed by tearing off the pelvic cellular tissue outside of the rectum; other smaller ones were removed in the same manner. The growth on the superior wall of the rectum was found to be between the muscular and mucous coats, was made to slide backwards by pushing toward the anus, and was removed by cutting through the mucous membrane. At that stage of the operation an effort of traction to enucleate the tumor was followed by a laceration of the rectum, and the left margin of the anus. The two large masses of melanotes weighed four pounds and a half.

The wound was carefully washed and dressed with oakum, and the edges brought together by single suture.

On the following day the oakum was removed from the cavity, which was irrigated with cold water, the surrounding parts washed, and the tail bandaged; pulse and temperature normal; no appetite; had passed some soft fœces during the night. On

the second day the parts began to swell, the stitches of the lower part of wound began to break away; temperature, 102; no appetite; same treatment of cold water irrigation, with injections of solution carbolic acid. On the third day the swelling was still increased around the anus, the mucous membrane of the rectum was swollen and infiltrated; no appetite; pulse and temperature about normal; same treatment; the introduction of the hand into the rectum was very painful; the removal of the fœces was accompanied by violent and expulsive efforts. On the fourth day the swelling was still more increased, the appetite was a little improved; temperature and pulse normal; same treatment; fœces removed several times during the day. On the fifth day there was no change. On the sixth day the sutures had all broken away, leaving a large open wound. On the seventh and eighth days the patient remained about the same, with a slight increase of appetite; same treatment. On the ninth day the patient began to pass fœces quite freely, the swelling began to decrease; temperature and pulse normal; appetite fair; same treatment. About the twelfth day after the operation the parts resumed their normal size; the fœces was passed regularly, the animal eating well, with all functions normal, and has remained in the same condition up to the present writing, the wound being in a healthy condition, discharging very little pus, the same treatment of cold water irrigation being continued ever since, and the animal sent home almost entirely healed.

EXTRACTS FROM GERMAN JOURNALS.

COLIC IN HORSES.

Lemcke, in almost all cases of colic, made, first, a subcutaneous injection of morphia, and in extreme cases followed this with other remedies. He believes that this system of treatment has always been accompanied with the most satisfactory results, provided that no homœopathic doses of morphine are given. One to three decigrams have but little effect. For a small horse four, and for a large one five to six decigrams would be required. He

assures us that he has never seen any bad effects from this manner of administration, nor has he observed in the large number of cases he has treated any accident. Should any occur, then it is evident some mistake has been made in the dispensing of the drug. Adam generally injects a few litres of fresh water into the rectum. The effect, he says, is surprising, the pains generally cease in a very short time, and, in most cases, recovery begins without other remedies being required. Having made these observations, he no longer administers morphia, but generally uses cold water injections per rectum, according to the size of the animal, from four to six litres. The rubber hose used in this treatment does not have a wooden or tin nozzle, and is passed into the rectum, as far as eighteen inches or more, which is generally, in most cases, easily done, if the hose is stiff enough so as to prevent doubling on itself. He regulates, with as much ease as possible, the inflowing of the water, so as to prevent its return, and for this reason he orders the funnel to be held as high as a little above the back. It is seldom necessary to repeat the injection. The use of drugs is proper when by peculiar symptoms indicated, but only in exceptional and long continued cases. The patient, in case of chill, is to be dashed with a mixture of equal parts of spirits turpentine and spirits of camphor, which, being rubbed in with a wisp of straw, the animal is covered up with a woolen blanket. The patient is allowed to lay down on a good bed. Leading or driving in the open air is to be practised only in exceptional cases.—*Repertorium der Thierheilkunde*.

INFLUENCE OF FLOORING.

Ulich found that the cause of rheumatism in horses and cattle is generally to be sought for in the construction of stables, and especially of the floors. In stables where the floors are of impervious material, such as beton, asphalt, brick, stone, etc., inlaid with cement, cases of rheumatism are less frequent and yield more readily to treatment, because such floors are more easily kept dry and warm by means of a thick layer of sawdust with straw on top. But in such stables, where wooden planks lie

on sleepers or ridged and cemented earth, draughts cannot be avoided, even with the best bedding, especially in cold weather, and therefore attacks of rheumatism are more frequent and severe, yield less readily to treatment, and are more subject to relapse. Besides, the air found in such stables is less pure than in those with impervious floors and surface drainage, as these can be readily cleansed of filth by washing off before it decomposes. —*Ibid.*

SANITARY LEGISLATION.

ACTS RELATING TO CONTAGIOUS DISEASES OF ANIMALS IN COLORADO.

AN ACT to Prevent and Suppress Infectious and Contagious Disease among the Domestic Animals of this State, and for the Appointment of the Necessary Officers to Carry Into Effect the same, and to Fix Compensation.

Be it enacted by the General Assembly of the State of Colorado :

SECTION 1. The office of State Veterinary Surgeon is hereby created.

SEC. 2. Immediately upon the passage of this act the Governor shall appoint to the office of State Veterinary Surgeon the person elected by the State Board of Agriculture as the Professor of Veterinary Science, and holding the chair of Veterinary Science in the State Agricultural College.

SEC. 3. The person so appointed shall hold his office for the term of two years from the date of his appointment, provided such person is not deposed during such term by the State Board of Agriculture from his position in the State Agricultural College.

SEC. 4. The person so appointed as State Veterinary Surgeon shall, before he enters upon the duties of his office, take and subscribe to an oath to faithfully and impartially discharge the duties of his office, and give a bond running to the people of the State of Colorado, in the sum of ten thousand dollars (\$10,000), with good and sufficient sureties, for the faithful performance of his

duties. Such bond to be approved by the Governor, and together with the oath of office to be filed in the office of the Secretary of State.

SEC. 5. In case the person holding the office of State Veterinary Surgeon shall be deposed by the State Board of Agriculture from the chair of Veterinary Science in the State Agricultural College, or a vacancy occur from any cause, then his term of office shall thereupon expire, and the person selected by the State Board of Agriculture to fill the vacancy of the chair of Veterinary Science in the State Agricultural College shall be appointed by the Governor to fill the unexpired term. Such person so appointed to fill the unexpired term shall take oath, and give bond as provided in Section 4 of this act.

SEC. 6. There is hereby created a State Veterinary Sanitary Board, such Board to be comprised of three members, namely: The State Veterinary Surgeon and two other members, to be appointed by the Governor, by and with the advice and consent of the Senate. Such persons so appointed shall hold their office for the term of two years.

SEC. 7. The State Veterinary Sanitary Board shall have stated meetings annually, to be held at the State Capitol, but may have called meetings at such times and places as may be deemed necessary, the Chairman calling the same.

SEC. 8. It shall be the duty of the State Veterinary Surgeon to investigate any or all cases of contagious or infectious diseases among the domestic animals of the State which may come to his knowledge, and for that purpose he shall visit at once any locality within the State, where any such disease may be reported to exist, and make full and careful examination of all or any animals in that locality. He shall also prescribe the proper care and necessary remedies, inaugurate and direct the necessary sanitary measures to prevent the spread of such disease, and report the same to the State Veterinary Sanitary Board. He shall also make a scientific study and investigation of all diseases of domestic animals, and report the result of his study and investigation to the State Sanitary Board, and shall publish from time to time bulletins for the benefit of the people of the State, and

in connection with the State Veterinary Sanitary Board, embody the same in a yearly report, which, with the proceedings of the Board, shall be published in connection with the annual report of the State Board of Agriculture.

The State Veterinary Surgeon shall also perform such other and further duties as may be prescribed by law, or formulated under the State Veterinary Sanitary Board.

SEC. 9. It shall be the duty of the State Veterinary Sanitary Board to adopt such quarantine regulations as are deemed necessary to prevent the introduction or spread of Texas or splenic fever, contagious pleuro-pneumonia, or any other contagious or infectious disease, affecting domestic animals, under such regulations as shall be prescribed by law.

SEC. 10. The State Veterinary Sanitary Board shall have power to order the destruction of stock in order to prevent the spread of disease or to crush out such disease, when deemed necessary by such Board for the public safety. *Provided*, however, no stock shall be killed on account of its being affected by Texas or splenic fever.

SEC. 11. Whenever the State Veterinary Sanitary Board decide that it becomes necessary to condemn stock and order the same killed, and so decide, it shall be their duty to convene a board of three appraisers, such board to be selected, one member by the State Veterinary Sanitary Board, one by the owner or owners of the condemned stock, and a third by agreement of the two previously selected. When convened, it shall be the duty of such appraisers to certify under oath to the value of the stock so condemned. *Provided*, that no animal shall be condemned and ordered killed unless it showed decided symptoms of a contagious disease, and in making an appraisement of the value the appraisers should take into consideration the diseased condition of the animal.

SEC. 12. When any live stock shall have been appraised, as herein provided, and killed by the order of the State Veterinary Sanitary Board, such Board shall issue under its seal to the owner or owners of the live stock so killed, a certificate showing the number and kind of animals so killed, and not to exceed in value one

thousand (\$1,000) dollars in any one year, and the amount of money to which the holder is entitled by reason of the appraisal heretofore mentioned, and report the same to the Auditor of State. Upon presentation of such certificate to the State Auditor he shall draw his warrant on the State Treasurer for the amount therein stated; provided that the provisions of this section shall not apply to any animal or animals that shall be proved to have been in a diseased condition when brought into this State, or have been brought into the State contrary to any law of the State, or any rule or rules adopted by the State Veterinary Sanitary Board.

SEC. 13. The State Veterinary Sanitary Board shall have power to employ at the expense of the State, such persons, and purchase such supplies and material as may be necessary to carry into effect all orders by it given; *Provided*, that no labor shall be employed, material or supplies purchased by the Board, except such additional labor, material and supplies as may be necessary to carry into effect quarantine regulations as prescribed by the State Veterinary Sanitary Board.

SEC. 14. Whenever the State Veterinary Sanitary Board shall have good reason to believe that any contagious or infectious disease exists in any locality in other States, Territories or countries, or that there are conditions which render domestic animals from such infectious districts liable to convey such disease, they shall report the same to the Governor of the State. Thereupon the Governor shall, by proclamation, prohibit the importation of any live stock of the kind diseased into the State, unless accompanied by a certificate of health given by the State Veterinary Sanitary Board, who shall carefully examine all such live stock previous to the giving of such certificate. All expense connected with such examination to be paid by the owner or owners of such live stock so examined.

SEC. 15. Whenever it is deemed necessary by the State Veterinary Sanitary Board to supervise and inspect any of the lines of transportation in this State, and the stock yards connected with the same, suitable inspectors shall be appointed, such as the Board shall direct, and these shall be paid by the corporation or

corporations, or individual in charge of such lines of transportation and stock yards. Any such corporation, corporations or individual owning or operating such lines of transportation or stock yards shall conform promptly to all regulations made by the said State Veterinary Sanitary Board, of which they shall have notice from such Board.

SEC. 16. The State Veterinary Sanitary Board shall have the power to call upon all Sheriffs, Deputy Sheriffs or Constables to execute their orders, and such officers shall obey the orders of the Board. The officers performing such duties shall receive compensation therefor as is prescribed by law for like services, to be paid as other expenses of said Board as herein provided, and any officer may arrest on view and take before any magistrate of any county any person found violating the provisions of this act, or the rules or regulations adopted by the State Veterinary Sanitary Board, and such officer shall immediately notify the District Attorney of such arrest, who shall prosecute the person so offending according to law.

SEC. 17. Any person or corporation who shall violate, disregard or evade, or attempt to violate, disregard or evade any provision of this act or any of the rules, regulations, orders or directions of the State Veterinary Sanitary Board made in pursuance of their official duties, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in the sum of not less than one hundred dollars and not more than five thousand dollars, or imprisonment in the county jail not less than three months nor more than two years, or by both such fine and imprisonment.

SEC. 18. Each member of the State Veterinary Sanitary Board shall receive the actual necessary traveling expenses incurred in the discharge of the duties of this Board.

SEC. 19. The State Veterinary Surgeon shall be paid an annual salary of \$2,500, to be paid quarterly out of the State Treasury on order drawn by State Auditor, and he shall receive no other or further compensation from the State or State Board of Agriculture.

SEC. 20. For the purpose of this act the members of the State Veterinary Sanitary Board are authorized and empowered to ad-

minister oaths and affirmations, and they are further empowered to question individuals or agents or corporations under oath, for the purpose of eliciting information to be used before the Board in the furtherance of its duties.

SEC. 21. Inasmuch as the public interest requires that this act should take effect at once, an emergency exists requiring this act to take effect immediately. Therefore, this act shall take effect and be in force from and after its passage.

AN ACT—To prevent the introduction of infectious and contagious diseases among the cattle and horses of this State.

Whereas, There is prevalent among cattle and horses stock in the States and Territories south of the 36° parallel of north latitude certain infectious and contagious diseases known as the Texas, or splenic fever, Spanish itch, and other diseases of a dangerous and contagious nature, and

Whereas, It is essential for the protection of the cattle and horses of Colorado to prevent the introduction and spread of all such diseases within this State; therefore,

Be it enacted by the General Assembly of this State of Colorado :

SECTION 1. It shall be unlawful for any person, association or corporation to bring or drive, or cause to be brought or driven into this State, any cattle or horses having an infectious or contagious disease, or which have been herded or brought into contact with any other cattle or horses laboring under such disease, at any time within ninety days prior to their importation into this State.

SEC. 2. It shall be unlawful for any person, association or corporation to bring or drive, or cause to be brought or driven, into this State between the first day of April and the first day of November, any cattle or horses from a State, Territory or country south of the 36° parallel of north latitude, unless said cattle or horses have been held at some place north of the said parallel of latitude for a period of at least ninety days prior to their importation into this State, or unless the person, association or corpora-

tion owning or having charge of such cattle or horses shall procure from the State Veterinary Sanitary Board a certificate or bill of health to the effect that said cattle or horses are free from all infectious and contagious diseases, and have not been exposed at any time within ninety days prior thereto to any of said diseases.

SEC. 3. Any person violating the provisions of this act shall be deemed guilty of a misdemeanor, and shall, on conviction, be punished by a fine of not less than five hundred dollars (\$500), or more than five thousand dollars (\$5,000), or by imprisonment in the county jail for a term of not less than six months and not exceeding three years, or by both such fine and imprisonment.

SEC. 4. If any person, association or corporation shall bring or cause to be brought into this State any cattle or horses in violation of the provision of Section 1 or 2 of this act, or shall by false representation procure a certificate of health as provided for in Section 2 of this act, he or they shall be liable, in all cases, for all damages sustained on account of disease communicated by or from said cattle or horses; judgment for damages in any such cases, together with the costs of action, shall be a lien upon all such cattle and horses, and a writ of attachment may issue in the first instance without the giving of a bond, and the Court rendering such judgment may order the sale of said cattle or horses, or so many thereof as may be necessary to satisfy said judgment and costs. Such sale shall be conducted as other sales under execution.

SEC. 5. Inasmuch as the public interest requires that this act should take effect at once, therefore an emergency exists, and this act shall take effect and be in force from and after its passage.

REVIEWS.

URINARY AND RENAL DISORDERS, by LIONEL S. BEALE, M.D. (P. Blakiston, Son & Co., Philadelphia.)

This is an excellent work, which the veterinarian will do well to read and study. While many points in its pages will be of more advantage to the human physician, the veterinary prac-

tioner will find in it facts that he cannot obtain in our English veterinary literature, so poor on the subject of the diseases of the urinary apparatus. The name of the author is so well known to all readers of medical works, that its authority on urinary and renal disorders is sufficient guarantee of the quality of the book.

L'HYDROTHERAPIC APPLIQUE AUX ANIMAUX DOMESTIQUES, by
P. HARTENSTEIN.

The object of this large pamphlet is to bring before the veterinary profession the advantages to be derived by the application of hydrotharopy in the treatment of the diseases of domestic animals. After giving the history of this mode of treatment, the author relates a number of cases in which his application has been followed by excellent results. In the treatment of fevers, of parturient apoplexy principally, of paraplegia after delivery, of prolapsus of the uterus, of the rectum in acnte metritis, of acnte mammitis, of essential and symptomatic vertigo, of intestinal paralysis, etc., etc., the author shows the successes he has obtained, as well as in cases of wounds in general, of articular diseases, and even in the treatment of the cœnurus coubralis of the horse and of sheep.

OUR REGISTER OF REGULAR GRADUATES.

ALUMNI OF THE CHICAGO VETERINARY COLLEGE.

From the prospectus of the Chicago Veterinary College we extract the following list of the first graduates of that institution

T. L. Armstrong.....	Indianapolis, Ind.
S. S. Baker.....	Chicago, Ill.
J. Bond.....	Streator, Ill.
A. Dean.....	Girard, Mich.
J. Y. Lehman.....	Sterling, Ill.
W. V. Niles.....	Charleston, Ill.
P. Quitman.....	Chicago, Ill.
J. S. Spangler.....	Plainfield, Ill.
B. E. Stauffer.....	Wakarusa, Ind.
A. Ziegler.....	Lincoln, Ill.

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of the New York State Veterinary Society was held at the Clarendon Hotel, Brooklyn, on Tuesday, June 9th. The President, Dr. R. A. McLean, in the chair.

Members present were: Drs. Robertson, L. McLean, Burden, Liautard, Berns, Boyd, C. C. Cattanaeh, Dixon, Berget, J. S. Cattanaeh, Birdsall, Bretherton, Field, Hollingsworth, Dimond, Johnson, Henshaw, Mustoe, R. A. McLean, Pendry, Newman, Waters and Yokura. Dr. Miller, President New Jersey State Veterinary Society, and the Hon. George F. Elliott, of the Brooklyn Board of Health, among others, were present on invitation.

Minutes of the last meeting were read, and on motion adopted.

After those present had examined the interesting pathological collection brought to the meeting by Dr. L. McLean, a paper on "Railroad horses, their selection, management, some of their diseases and treatment," by Dr. R. Kay, was read by Dr. C. C. Cattanaeh. The paper was a lengthy one, and presented many points for discussion, and in view of this fact, and the essayist not being present to defend them, it was on motion, laid over for discussion to the next meeting.

Dr. L. McLean then read a paper on the "Veterinarian as a Sanitarian," in which he strongly demonstrated where the veterinarian was a necessary requisite to all Health Boards.

After the Chair had presented the paper for discussion, Dr. Liautard, during his remarks on the subject, said he regretted that it was not more fully discussed, it was one of very great importance both to the laity and our profession. He was pleased to pay a just tribute to the city of Brooklyn, and he regretted to say that it was ahead of his own city, that of New York, which had not yet thought proper to recognize the veterinarian as a sanitarian. Brooklyn and Newark, N. J., were the only two cities where the profession were recognized by the Board of Health.

On the invitation of the Chair, the Hon. George F. Elliott addressed the meeting as to the rules laid down by the Brooklyn Board of Health, during which he paid a high compliment to its inspector, Dr. L. McLean, and contended that all Health Boards should engage the service of a veterinarian.

Dr. L. McLean contended that the medical gentlemen who were called upon to act as milk inspectors, knew nothing whatever about the diseases of the animal that gave the milk, although they could easily tell if there was much water in it, and that was about all they could tell.

After some further discussion, it was moved and seconded that the Society urge the Board of Health of New York City to give proper recognition to the veterinarian as a sanitarian on its Board. After some discussion as to drawing the attention of the authorities of that city to the frequency of glanders, and also of laying the subject before the State Board of Health, it was finally carried so as to deal with milk and meat inspectors in New York City. During the discussion on the subject, Dr. Miller said he certainly objected to throwing away milk be-

cause it had a little water in it. Dr. Dixon stated that he knew it to be a fact, that diseased meat was slaughtered and sold for food in Hoboken, N. J. The Chair informed the meeting that he knew of a herd of ninety head of Alderneys, whose butter was sold in the New York markets at a premium, that had for the last three or four years been affected with tuberculosis, so that during that time, three or four had died each year from that disease.

The Chairman of the Board of Censors presented an agreement, properly drawn up for signature, so as to communicate the amalgamation of the New York State Veterinary Association with the New York State Veterinary Society, in accordance with the resolution passed. On motion, the same was accepted, and officers ordered to sign the same. They reported in favor of the application for membership of Wm. H. McCaldon, M.R.C.V.S., Brooklyn, and of J. H. McMartin, V.S., Utica, N. Y. Both reports were duly received, and an election was ordered, which resulted in the two gentlemen being duly elected to membership.

Before putting the motion to adjourn, the Chair, on behalf of those members who resided in Brooklyn, invited all present to adjourn to the supper table, where was ended, in a most enjoyable manner, one of the best meetings of the Society.

W. H. PENDRY, D.V.S., *Secretary*.

WISCONSIN STATE VETERINARY MEDICAL ASSOCIATION.

The Wisconsin State Veterinary Medical Association held its fifth semi-annual meeting in the parlors of the Kirby House, Milwaukee, Wis., May 5, 1885.

The Association was called to order by the President, Dr. V. T. Atkinson. On calling the roll, nine members answered to their names, and four applicants for membership were present.

The minutes of the last meeting were read and approved.

Next in order being election of officers, Dr. V. T. Atkinson of Milwaukee, was re-elected President; E. R. Evans, V.S., of Racine, 1st Vice-President; E. R. Horn, V.S., of Whitewater, 2d Vice-President; C. H. Ormond, V.S., of Milwaukee, 3d Vice-President; E. W. Rowland, D.V.S., of Monroe, Corresponding and Recording Secretary; J. Q. Smith, V.S., of Madison, Treasurer. Board of Censors: C. Evans, D.V.S., of Racine, Chairman; C. H. Ormond, V.S., of Milwaukee; J. Senti, V.S., of Milwaukee; E. W. Rowland, D.V.S., of Monroe, member of Board of Censors *pro tem*.

Board of Censors reported favorably on one applicant, C. A. Woodford, V.S., of Madison.

E. R. Horn, of Whitewater; C. A. Woodford, of Madison; B. F. Holmes, of La Crosse; E. W. Rowland, of Monroe, were appointed to prepare essays to be read at the next meeting.

Dr. W. M. Ormond moved we adjourn to meet in Madison, on Thursday of the week of the State Fair. Dr. Horn seconded Dr. Ormond's motion. Association adjourned.

E. W. ROWLAND, D.V.S., *Secretary*.

OHIO STATE VETERINARY MEDICAL ASSOCIATION.

The Ohio State Veterinary Medical Association held its semi-annual meeting in the parlors of the Grand Hotel, Cincinnati, June 2d and 3d.

Tuesday evening session was called to order at 8:30 p.m., by the President, J. W. Newton, of Toledo. After a few remarks he called on the secretary to call the roll, when the following gentlemen answered to their names: J. V. Newton, Toledo; T. B. Cotton, Mount Vernon; T. B. Hillock, Columbus; W. E. Wright, Delaware; W. A. Labron, Xenia; L. A. Severcool, Norwalk; P. D. Younkerman, Cleveland; J. Charleswoanten, Springfield; J. S. Butler, Piqua; G. W. Butler, Circleville; A. Smith, Pleasant Hill; J. C. Myers, Jr., J. C. Myers, Sr., Cincinnati; J. M. Wardell, Columbus. Visitors, Dr. Morice, V.S., New Orleans; A. Frazer, President of Society of Prevention of Cruelty to Animals, and Oscar B. Toddhunter, Secretary of same; Dr. Devou, of Ripley, Ohio; and Dr. Logan, of Bellfontaine.

Minutes of the previous meeting were read and approved.

Two new members were proposed, Drs. Devou of Ripley, Ohio, and Dr. Logan, of Bellfontaine. Being graduates they were admitted to membership.

Moved and seconded that the case of Dr. John Rose, of Columbus, be disposed of as coming under the head of unfinished business. Moved and seconded that John Rose be expelled from the Ohio State Veterinary Association for not attending its meetings. Motion put to a vote and carried.

Dr. Myers, Jr., of Cincinnati, then read a very interesting paper on Osteo Porosis, known as Big Head. After considerable discussion of the paper it was moved and seconded that Dr. Myers be tendered a vote of thanks for his valuable paper, and that it be sent to the REVIEW for publication, and a copy sent to each member of this Association.

Dr. Hillock spoke of three cases of spinal meningitis which came under his notice. Dr. Smith also related a case of torsion of the uterus in a cow. Post-mortem examination proved his diagnosis to be correct.

Moved and seconded that the meeting adjourn to meet Wednesday morning at 8:30.

Wednesday morning 8:30, meeting was called to order, President Newton in the chair. President spoke in regard to the Society of Prevention of Cruelty to Animals, and thought that they had done a great deal of good, referring to the street ear horses, and the improvement in their condition.

Mr. Frazer, President of the Society of Prevention of Cruelty to Animals, made a few remarks in behalf of their association, afterwards tendering all present a cordial invitation to their headquarters.

Secretary Toddhunter read a very interesting paper, giving some of the brutality practiced on animals, and hoped the day is not far distant when anesthetics will be used in all operations as in human surgery.

A vote of thanks was then tendered the gentlemen. Mr. Toddhunter then presented each member with a copy of their constitution and by-laws.

Dr. J. S. Button then read a lengthy paper on pleuro-pneumonia contagiosa. A short discussion followed its reading.

Moved and seconded that a vote of thanks be tendered Dr. Button for his

valuable paper, and also that a copy of the same be sent to each member at the expense of the Association.

Moved and seconded that a vote of thanks be tendered Drs. Myers for their kindness in securing a suitable place for meeting.

Moved and seconded that the meeting adjourn to meet again in Columbus during the week of the coming State Fair.

J. M. WADDELL, *Secretary*.

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular monthly meeting of this Association was held at the Massasoit House, Springfield, Mass., Friday evening, May 1st.

President Billings occupied the chair, and there were present: Drs. M. Bunker of Newton; J. E. Gardner of Greenfield; F. H. Osgood of Springfield; J. S. Saunders and L. H. Howard of Boston; J. F. Winehester of Lawrence, and Chas. Winslow of Rockland; also, as invited guests, P. L. LeB. Stiekney, M.D., and W. W. Gardner, M.D., of Springfield; Dr. A. R. Riee, Chairman Board of Health of Springfield; Dr. Forrest of Rockland; Dr. Thomas Bland, Secretary Connecticut Veterinary Medical Society; Mr. W. H. Wilkinson, of the "Brightside Farm," Holyoke; Messrs. Myrick of New England *Homestead*; Lyman of Springfield *Republican*; and Geddings of Springfield *Union*.

The record of the previous meeting was read and accepted, and the general order of business was omitted to listen to a paper by Dr. Billings:

PART I.—STATE MEDICINE.

Designating the system of State Medicine as the "great life saving service" of the country, he divides it into three portions: 1—The Educational division, represented by our medical institutions. 2—The Hygienic division, represented by our Boards of Health. 3—The Practical division, represented by our practitioners.

He first called attention to the educational part of the system as being the foundation of the other parts, the work of the schools being the education of the *scientist* as well as of the practitioner; regretting, however, that *our* schools do not fulfill these requirements; that American schools give more attention to the practical part of the science, than to investigation; the latter being left to the Continental schools.

This condition he thought to be due: *First*, to the fact that we have no schools supported and regulated by the State, but being *endowed* they cannot be entirely independent in the selection of teachers, and they are often not selected for ability alone. *Second*, by the chartering of so many schools, a spirit of competition between them arises, which interferes with their usefulness.

The speculative schools he thought ought to be condemned, as being as a rule, unscrupulous and of no responsibility. The proper results in his opinion, are only to be obtained by a National school system.

In regard to the hygienic portion of State medicine, the essayist drew attention to the fact that we have no well organized public health and sanitary police system; no well qualified State officer for the inspection of meat, milk, or the

dairies; no State method for the gathering of useful statistics; and no State laboratory for investigation; *all* of which ought to be in existence as a part of our public health system.

He attributed our condition in this matter to our English inheritance, as in Great Britain they have no organized system of State medicine, and there and here only do we find endowed schools and "subscription plans."

As to the *practical* portion of State medicine, he earnestly advocated the regulation of the practice of medicine by law, each practitioner to be required to pass an examination before a Board of competent examiners.

In conclusion the essayist called attention to the great importance of this subject, that "public *health* is public *wealth*," and remarked how seriously a visitation of rinderpest or cholera for example, would affect the Nation's prosperity, and earnestly advocated a radical change in our system of State medicine, that such calamities may the more certainly be avoided.

PART II.—KOOH'S METHOD OF BACTERIA CULTIVATION.

This was a very interesting description and illustration by Dr. Billings of Koch's process of cultivating bacteria.

He first gave us a brief history of the life and work of Koch, and then went on to describe, first, the preparation of the media for the cultivations. On the table before him was all the laboratory apparatus necessary for complete illustration, and a hundred test tubes containing cultivations of different ages, both of Koch's comma bacillus, and that of the genuine Asiatic cholera.

He described how the media were made from gelatin, chopped lean meat, peptone and salt, together with a species of Iceland moss, which renders the media solid; he then showed how the bacteria were developed in glass chambers, and next went through the *modus operandi* of inoculating the gelatin.

By means of different cultivations he showed how the different bacilli could be recognized, simply by their method of development in the media, cultivations only twenty-four hours old of the bacilli of cholera morbus and Asiatic cholera being easily differentiated; showing of what great diagnostic value these methods of bacteria cultivation may become.

All present were very much interested, and at the conclusion of Dr. Billings' remarks a unanimous vote of thanks was tendered him.

Dr. Stickney of Springfield, said he had been very much interested, both in the paper on State medicine, and in the practical illustration of bacteria cultivation, and thought that the address on the former subject ought to be published broadcast.

He also thought that veterinary medicine ought to be more fully recognized, and he was ready, as a practitioner in the department of human medicine, to extend to it the right hand of fellowship; appreciating *fully* how its investigations and results can assist those in the other branch of the same great science.

Dr. A. R. Rice, Chairman Springfield Board of Health, said that he wished to indorse the remarks of Dr. Stickney, and to compliment highly the paper on State medicine. He remarked that he was ashamed of the State of Massachusetts not having a law to regulate the practice of medicine, becoming, as it is, the "Botany Bay" for charlatans and quacks.

Drs. Gardner, of Springfield, and Forrest, of Rockland, and Dr. Bland, also

remarked upon the great importance of this subject, and complimented very highly the essayist's presentation of it.

Dr. Bunker showed a pathological specimen—œdema of the glottis in a cow.

The glottis was entirely closed, the cellular tissue all about being filled with serum (a dropsical condition), larynx somewhat inflamed. The symptoms were sudden in their development, respiration becoming rapidly hurried and short, tracheotomy not performed, because animal was destroyed for the butcher at end of twelve hours.

The company adjourning to the banquet hall, the next two hours were spent at dinner, following which we listened to after-dinner speeches by the different members and their guests.

The meeting was subsequently called to order, and an executive committee *pro tem.* was appointed to transact some necessary business, none of the members of that committee being present.

Quite a discussion took place in regard to the "subscription plan" as pursued by veterinary institutions in general, and by Harvard Veterinary School in particular.

It seemed to be the general opinion that it was unjust to the practitioner, and derogatory and detrimental to the best interests of the profession.

On motion of Dr. Howard, it was unanimously *voted*, That a committee of three be appointed by the Chair to prepare resolutions censuring the system, reporting at next meeting.

The Chair appointed as that committee Drs. Sanders, Bunker and Howard.

The President appointed as the next essayist Dr. Alderman, to be followed by Dr. Bryden.

A unanimous vote of thanks was extended to Dr. Osgood, of Springfield, for his courteous attention to the association while in his city.

No other business coming before the meeting it was adjourned, all present expressing the opinion that the meeting had been a very enjoyable one, and fraught with a great deal of good to our association. It was regretted, however, that so many of our members found it impossible to be present.

L. H. HOWARD, *Secretary.*

NEWS AND SUNDRIES.

SALTING HAY.—According to Ulich, farmers in some parts of Germany practice this method of storing hay, strewing the salt between the different layers, about two quarts for each ton. By this means it will keep if not entirely cured, and will not become musty. Also, hay of inferior quality would be readily eaten and digested by cattle.—*Repertorium der Thierheilkunde.*

MORPHINE FOR A HORSE.—The *Western Medical Reporter* says that a grocer who had an aged and disabled horse wished to get

rid of him by as painless a death as possible, and gave him forty grains of morphine. Having made preparations for the funeral, the grocer proceeded to the stable, where, to his astonishment, he found the horse in excellent spirits and eating his oats with his former habitual haste, so as to be ready for the early trip to market. Opium is said to have been used successfully in India for many years in relieving horses from the consequences of old age and overwork.

PLEURO-PNEUMONIA IN GREAT BRITAIN.—Prof. Brown, the veterinarian of the British Privy Council, has prepared his report upon contagious diseases among farm stock in the United Kingdom, and in conclusion, this is what he says about pleuro-pneumonia, which, we regret to say, has more than a passing interest for us at this time: "Pleuro-pneumonia might, under existing circumstances, be extinguished if local authorities would adopt one of two courses, either slaughter all the cattle in a herd as soon as the disease appears; or, in cases where slaughter is inexpedient, allow the premises to continue an infected place until the animals were in a fit condition for the butcher. It is hardly necessary to remark that these measures, to be effectual, must be enforced all over the kingdom. It is not probable that Great Britain will succeed in eradicating the disease so long as it exists in Ireland, from which we draw our chief supplies of store stock."—*National Live Stock Journal*.

PLEURO-PNEUMONIA IN THE WEST.—*The Ohio Farmer* says that "the excitement over pleuro-pneumonia in the West is subsiding, and the strict quarantine regulations adopted by certain States are being relaxed. Illinois now admits all cattle from Missouri upon *official certificate of health*. Next in order will be some new outbreak in some heretofore unsuspected quarter and another *great excitement*."

EXCHANGES, ETC., RECEIVED.

FOREIGN.—Veterinarian, Veterinary Journal, Annales de Medecine Veterinaria, Clinica Veterinaria, Recueil de Medecine Veterinaire, Presse Veterinaire,

Echo Veterinaire, Gazette Medicale, Revue d'Hygiene, Revue fur Thierhielkunde und Thierzucht, Journal Zootechnie.

HOME.—American Farmer, Country Gentleman, Prairie Farmer, Medical Record, Medical Herald, Farmers' Review, Breeders' Gazette, College and Clinical Record, American Agriculturist, Maine Farmer, Science, Home and Farm, Turf, Field and Farm, Spirit of the Times, National Live Stock Journal, Home Farm, Practical Farmer, Druggist Circular, Ohio Farmer, Scientific American, Iowa Farmer.

CATALOGUES.—The Atlanta Medical and Surgical Catalogue, Third Annual Rhode Island Registration Report, Catalogue of Chicago Veterinary College, Catalogue of Montreal Veterinary College, Register of Cornell University, '84 and '85.

NEWSPAPERS.—Journal of National Stockman, Photographic Times, Western Rural, N. Y. Weekly Times, News and Weekly Journal, Commercial News, Howard's Dairyman, Indiana Medical Journal, The Advance, American Cattle Breeder, Albany Express, The National Stockman, Health and Home, Journal of Accidents, Kansas City Journal, St. Louis Critic, Chenoa Gazette, The Polyclinic, The Rural Home, The Canadian Breeder, Massachusetts Agriculturist, Drovers' Journal, Washington Chronicle, Arkansas Gazette, Wallace's Monthly, Farm and Garden, Home Journal, Eastern Medical Journal, Western Reporter, Dairy World, American Sheep Breeders' Gazette, Democratic Leader, Philadelphia Times, Northwestern Live Stock Journal, Home Farmer, Farm and Fireside, Home Companion, American Poultry Journal, Farmers' Call, Western Plowman, The Medical Chronicle, American Garden, Therapeutic Gazette, Northampton Democrat, Mirror Farmer, Our Country Home, Indiana Farmer, Northwestern Tourist, Western Sportsman, Farm Implement, Dunton Spirit of the Turf, Poultry Keeper, U. S. Dairyman, State Grange News, American Farmer and Garden News, Bee Keepers' Guide, Home Journal, Farmers' Friend, National Farmer, Farmers' Economist, Shepard National Journal, Grange Visitor, Rural Home, Michigan News, North Pacific Rural, Spirit, Fruit Grower, Rural Californian, Nebraska Farmer, Kansas Agriculturist, Brooklyn Daily Eagle, Brooklyn Daily Times, Brooklyn Daily Union.

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As we go to press on the 20th of the month, papers for publication ought to reach us before or on that date.

AMERICAN VETERINARY REVIEW,

AUGUST AND SEPTEMBER, 1885.

EDITORIAL.

VACCINATION AS A PROPHYLACTIC MEASURE.

The progress reported by the veterinarians of Europe, in the prophylaxy of certain of the contagious diseases of our domestic animals, as the result of the process of inoculation, is a fact as yet comparatively ignored in the United States. At least, if not quite ignored in practice, it is resorted to rather as an uncertified experiment in the domain of curious inquiry, than with a recognition of its established value as a tested and confirmed scientific method. This, in a great measure, accounts for the numerous reports in our agricultural papers, with circumstantial detail, of frequent outbreaks, in designated localities, of one or other of the contagions in question, and the fearful havoc which marks their progress, involving not only the serious money loss which befalls the individual sufferers, but affecting, in a greater or less degree, the general wealth of the nation.

This being the case, the question which presses for an answer is, Who is to blame for this? Who is responsible for the neglect of inoculation in bacteridian and bacterian anthrax, in hog cholera and in chicken cholera, in this country? Why is it that prophylactic means are employed against a single disease only, pleuro-

pneumonia, when a little careful reflection must convince any intelligent person that the results obtained in connection with this one disease are scarcely worthy to be put in comparison with those which follow systematic inoculation against the others?

We are convinced that very much of the blame is due to veterinarians, who for lack of properly appreciating the value of the operation, have hesitated to put it into practice. The experiments first made against bacteridian anthrax by the method of Pasteur, with those that followed against symptomatic anthrax and hog cholera, have again and again proved their efficiency. It is true that in a few cases they were at first considered as failures, as in the early attempts made in Italy, but they soon became established in popular estimation. Recently, extensive experiments have been made in Germany with the virus of hog cholera, as prepared by the method of Pasteur, and immense success has again crowned the enterprise.

Now, why is it that this plan of vaccination has acquired such an unquestioned and established value in Europe, and why is it that it is so extensively adopted into practice? It is because veterinarians have been the first to urge its application, for in the various attempts which have been so happily successful, veterinary surgeons have been the active agents, in many cases strictly and exclusively, and in others less directly, acting in the character of representatives of the interests of the agricultural community.

For the veterinarians of the United States, though we may be somewhat culpable for want of the same initiative, a fair excuse may probably be inferred from the query: "Where can the vaccine virus be obtained?" We have on various occasions published the different processes for preparing the material, but great difficulties attend the manipulation, and but few persons are found capable of making a vaccine virus of good quality. A gentleman engaged for years in this special work informed us a short time since that methods of preparation vary very much, and that the *modus faciendi* of to-day is very different from that of a year ago.

Let us then but obtain the proper virus, and we are confident that our veterinarians will gladly put it to the trial. We take

pleasure in announcing that we have now in our possession vaccine virus, as prepared by Pasteur, by Chauveau and by Cornevin, and that we will gladly furnish our colleagues with samples of them for trial. We feel assured that, if properly employed, the same beneficial results will follow here as elsewhere, and our domestic animals enjoy a desirable immunity against those diseases to which the destruction of so many of them is every year to be attributed.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

The annual meeting of this association will be held in a few days in New York, and we take occasion to remind the numerous members of the importance of the meetings, and of the necessity and duty of their attendance. The meetings have grown yearly in interest, and the attendance has steadily augmented, and many reasons might be stated why this year the result should indicate still greater interest, and larger showing of the membership. Last year the meeting of the association was held in Cincinnati, and all those who were present will remember how profitable and pleasant an event it was. The change in the plan of meeting has no doubt produced amongst veterinarians of the West a more harmonious feeling toward their brother practitioners of the East than before existed, and it is to be hoped that this fraternal sentiment will be strengthened at the coming meeting. From letters that have reached us we derive abundant evidence that the division that existed on account of the formation of a new so-called "National" body, is likely to subside, and that many Western members will be present, either as delegates of Western State societies, or with a view to unite personally with our body.

It is to be hoped that the heads of the various committees and others will be prepared with full and good reports upon the subjects placed in their charge, and that those to whom the organization of the meeting is intrusted will have perfected all the measures necessary to make it in every sense a success. In order to refresh the minds of the various officers from whom reports or papers may be expected, we publish in another place a list of those upon whom will rest the responsibility of these matters.

NATIONAL CATTLE GROWERS' ASSOCIATION.

We have been favored with an invitation to attend the third National Convention of Stockmen, appointed to take place on the 17th and 18th of November next. The programme which we have received contains evidence that no effort has been spared to make the meeting a success, and to secure a full discussion of the various questions involved in the important branch of our agricultural wealth which will be brought under review. Numerous papers are announced for presentation and discussion, one of the most important emanating from the United States Commissioner of Agriculture, Hon. N. J. Coleman. Another paper, which promises to be of unusual interest to veterinarians, is promised from Dr. E. Salmon, Chief Veterinarian to the Bureau of Animal Industry, who has his name down for a presentation of the subject of contagious diseases of cattle. Whether the Doctor will limit himself to the subject of pleuro-pneumonia, or will also include those other contagious diseases which infect our herds, is a question of no little importance. While the subject of contagious lung scourge is, of course, full of interest, it would be quite unfortunate to find that other equally interesting subjects, such as the various forms of anthrax, Texas fever, abortion in cows, etc., had been overlooked or ignored by the Doctor. In any case, however, whatever may be the inclusions of the subjects which will be treated by Dr. Salmon, there is no doubt that his paper will constitute one of the great attractions of the meeting.

STATE VETERINARIANS.

Who would have supposed, a few months ago, that such an official position as "State Veterinarian" would ever exist; and who would have imagined that the East would be behind the West in the selection and appointment of competent men to bear such a title? It is evident that appointments to such a post have been difficult by reason of the deficiency in the numbers of qualified veterinarians in the East, and, of course, the difficulty would be still greater in the West. But since the increase and improvement of our veterinary schools—and we may venture to refer

principally to those of New York—veterinarians of education have become more numerous, and now the West is glad to come and secure their services. Wyoming Territory, Kansas, Illinois, and many other States are now provided with accomplished officials, and we have just received intelligence of the appointment of Dr. G. Keefer to the position of Territorial Veterinarian of Montana Territory, and of Dr. Julius Gerth as State Veterinarian of Nebraska. The alma mater from which these gentlemen were graduated may feel proud of these successes of her sons, and the addition of their names to others who had previously achieved similar distinctions.

ORIGINAL ARTICLES.

THE VETERINARIAN AS A SANITARIAN.

BY PROF. L. McLEAN, M.R.C.V.S.

(A Paper read before the New York State Veterinary Society.)

MR. PRESIDENT AND GENTLEMEN.—The subject I have selected to bring before you this evening is a many-sided one, and I will endeavor to present it from a practical point of view. The Veterinarian as a Sanitarian.

The veterinary profession has, in my experience on this continent, made rapid progress, and has, at least in this city, been well received and patronized, and it is for us to act as a profession and individuals, that we may show that such confidence has not been misplaced, and the communities amongst which we live have a right to expect that we will act actively and intelligently as sanitarians, in protecting them against the dangers of contracting, either by inoculation or ingestion, any of the many contagious or epizootic diseases to which our patients are so liable.

Science has, within the past few years, thrown such a strong light upon their etiology that we are no longer in ignorance as to the most rational hygienic measures which should be adopted for their suppression, if you, gentlemen, accept of the germ theory

of disease, as I do ; that is, that each specific disease has a specific poison germ or seed which lives, grows, and has a being specifically distinct from each and all other germs. By specific disease I mean one which has its own peculiar characteristics, and which in its special appointing symptoms of reaction distinguishes it from all others ; or, in other words, that all specific and contagious diseases are produced only by a minute living organism which cannot be spontaneously generated, but capable of an enormous reproduction when artificially cultivated for scientific purposes, or by the introduction of one single germ into the system of a fertile subject, affording more than sufficient to contaminate a whole continent. They are so exceedingly small that they can be readily carried in the atmosphere and so deposited in wounds, and it is by giving credit to this fact that we who have in our practice adopted the principal of antiseptic surgery can account for its beneficial results. They may be inhaled or swallowed in the food or drink ; that many of them are propagated in the soil or water, such as those of anthrax, is an admitted fact, and although we have no proof of the germs of contagious pleuro-pneumonia propagating themselves outside of the animal system, still there is ample authority that they do for a long time, in a suitable medium, resist destruction, while the life history of the germs of epizootic aptha, in or outside of the animal system, is one of very short duration.

Now it is admitted that the exhalations of an animal affected with pulmonary tuberculosis, contagious pleuro-pneumonia, etc., are largely charged with the germs of such diseases, and taking into account the exceptional affinity milk exhibits for the absorption of volatile matter, and how readily it becomes contaminated with diseased germs outside of the animal system, thereby becoming one of the most effective carriers of contagion—it absorbs them readily, is very retentive and is a wonderfully fertile soil for their development—you will at once see the imperative necessity of guarding against its contamination. This supervision should begin in the stable where the cows are milked, which should be clean, well lighted and ventilated, emanations from putrefactive or decomposing agents being strictly guarded against.

The habits of the attendant should be cleanly and himself free from any contagious disease. No animals affected with a zymotic or septic disease, such as tuberculosis, contagious pleuro-pneumonia, epizootic aptha, retention of placenta, etc., should be allowed to occupy the same stable wherein healthy cows are milked, as the milk would readily become contaminated with the emanations from such.

The system of delivering milk in private cans to families should be prohibited; these cans being frequently taken into the sick room and there opened, returned to the dairy to be cleaned, still retaining a certain portion of the contents, after being exposed to the contaminated atmosphere of the sick chamber, to be handled and cleaned by the hands of the person who takes an active part in the next milking. On the same principle I think no milk should be sold out of a store having a connection with a family dwelling place. Is it not most likely to occur that the mother proceeds to milk the cows or dispense milk in the store directly after nursing or administering to the wants of some member of the family affected with some contagious disease? Milk cows in cities are largely fed upon sloppy food, so as to increase their yield, but this system of feeding renders the fæces of a semi-liquid condition, and very largely increases the secretion of urine, complicating the sanitary arrangements necessary to keep such stables clean.

The flooring upon which cows stand should be water-tight and of such length that the fæces and urine drop into the gutter, which should be at least eight inches deep and twelve wide, and so arranged that all liquids readily run into a cesspool and the manure removed at least twelve yards from the stable into water-tight vaults. By having the gutter of this depth and so arranged, there is no danger of having the udder of the animal fouled upon its lying down, and, to absorb any liquid that may be left, the cow should be liberally bedded with straw or turners' shavings; and before milking the teats and udder should be cleaned with a cloth and water kept for that purpose. One has only to see the contents of a milk pail before the milk is strained to appreciate the necessity of this arrangement. And, as I have already said,

if strict attention in the matter of detail is necessary for success in antiseptic surgery, it is in a two-fold degree more so to prevent the contamination of milk outside of the animal system.

Now, gentlemen, what about the milk of diseased cows? I have no hesitation in saying that the milk of an animal affected with any contagious disease, whether zymotic or septic, should be condemned. One can readily reason on scientific principles that such milk cannot be healthy, and it would be folly on our part to wait for universal evidence in every instance of its pernicious effects. There is positive proof of the milk from an animal affected with tuberculosis when fed to other animals producing that disease, whether you have lesions in the mammary gland or not, and I have known of a whole litter of twelve young pigs die within twenty-four hours after partaking of the milk of a cow affected with epizootic aptha.

A few words as to the advisability of using the flesh of animals affected with a contagious disease as an article of diet: Many of our profession are in favor of rejecting all such animals as being unfit for human consumption, while others advocate the rejection of only certain portions of the carcass, although the latter always qualify their position by the proviso that the flesh be well cooked. From this point of view how futile and inoperative is the safeguard they employ, as in members of your own families how often is it found that rare meat is preferable, and how frequently do you hear it in our restaurants ordered as "rare," with a strong emphasis put on the latter condition. Is it possible that an animal affected with a zymotic disease at a certain stage of that disease can in any portion be free from contamination?

The position of those who advocate the use of certain portions of the animal amounts to, from their standpoint, the acceptance of the idea that certain parts are good and others bad. Is it not more rational and consistent that all are bad, but certain portions worse? I do not say but that an animal having lung lesions of contagious pleuro-pneumonia may, at a certain period, be made prime meat, but I hold that during the incubative stage, where you always find a high temperature, that the carcass as a whole should be condemned, under every other extenuating condition,

and this must necessarily apply to all such diseases. I consider that the inspection of our meat should be under the control of qualified veterinary surgeons with a special training in this department, and that such inspection should be only conducted at the slaughter house, as the lesions of most of our specific diseases are localized in some of the viscerae. I may say that I have within the past twelve months in this city as veterinary inspector condemned as unfit for human food 85 cattle affected with tuberculosis and 176 suffering from contagious pleuro-pneumonia, and there have also been reported and destroyed 260 horses affected with glanders or farcy.

In thus condemning the carcasses of cattle affected as above I am satisfied that many of my professional brethren will disagree with me; still I hold that if I err I err upon the safe side. By the recent report of the State Dairy Commission, we find that the cities of New York and Brooklyn consume daily the milk of 100,000 cows, and basing it upon my experience, I will venture to say that not less than three per cent. are affected with tuberculosis in one or other of its various forms.

This important source of food supply should come directly under the head of veterinary sanitary inspection. Much has been done by the use of the lactometer in preventing the adulteration of milk with water. So far good, but is this not a minor offence compared with the positive diseased germs conveyed therein from the milk producer and the contaminated surroundings, and of which the lactometer can give no indication? The practice of some Boards of Health, in employing medical men to do the work of the veterinary sanitarian, is not creditable to either profession. I have found that medical men who have nothing but their medical education as a qualification for such work are quite incompetent, and with equal propriety and success the order might be reversed, and the qualified veterinarian appointed to make medical inspections. Let our profession so advance that we will be considered an indispensable part of every well organized department of health, for not alone local but also national interests depend upon the vigilance and painstaking of the qualified veterinary sanitarian.

OSTEO POROSIS—"BIG-HEAD."

Paper read before the Ohio State Veterinary Medical Association.

By DR. J. C. MEYER, JR., D.V.S.

In view of the unusual prevalence of this disease during the past nine months, I am induced to submit a paper setting forth the most prominent features of this creeping malady in order to institute a discussion of matter appertaining to it, thereby enabling us, if possible, to arrive at a definite conclusion as to the ætiology, pathology, prophylaxis and treatment of this disorder.

The term "Osteo Porosis" is described by Dunglison as follows: "Induration of a bone from the deposition of too much bony matter called osteo sclerosis. Also a bony degeneration, which consists in too great porosity with hardening."

"RARIFICATION OF BONE."

This definition does not fully describe the conditions of bone in our patients affected with the disease we designate "Osteo Porosis." The porosity of the bone is manifested, but the induration does not exist; on the contrary, there is a lack of density of bone, an insufficient quantity of earthy material, consequently the bony structure becomes spongy. There is a distension of bony cells, a condition of hypertrophy, accompanied by serous infiltration. This abnormal state of bones predisposes them to fractures. The superior and inferior maxillary are generally the first to undergo this change, hence the name "Big-head." In the outset it is detected in the inferior maxillary bone; next the superior maxillary bone becomes involved, although other bones not so visible also become degenerated, as is often exemplified by the occasional fractures of bones of the extremities. It seldom occurs that a bone fractures completely, fragments of bone being broken off at the insertion of ligaments, tendons and muscles.

The malady is unquestionably due to a blood poisoning and is in most cases attended by rheumatic lameness, located most frequently about the phalangeal region of one or more extremities, the shoulder, hip and hock joints, and even the lumbar vertebræ, are also the seat of rheumatic pains and lameness.

ÆTIOLOGY.

The larger breed of our work horses, such as Normans and Clydesdales, are most susceptible to this disease, but still more in proportion the Shetland pony becomes its victim; of course others are also affected. These classes of horses having a predisposition for this disease, we will give the exciting causes a consideration.

I have given this matter a great deal of thought, and after studying all the hygienic influences, have not been able to discover the true origin of the disease. Atmospheric influences undoubtedly play the most important role in developing this disease, but what it is that contaminates the atmosphere of the infected stables I have not been able to determine. Stables having the best of ventilation and drainage, complete in all their details for the preservation of health and for the comfort of horses, are, nevertheless, visited by this disease. It is found among horses in brick, wooden or stone stables, built either on high or low ground. I have observed that it occurs most frequently in stables whose floors rest on joists or stilts, forming a vacant space between the ground and stable floor. Horses that are kept on dirt floors, or even in underground stables, strange to say, are less liable to become affected with osteo porosis or rheumatism than those quartered in stables on the first, second or third floor. To meet with a case in an underground stable is an exceedingly rare occurrence. This convinces me that moisture does not contribute to its development. Cases of osteo porosis and rheumatism are occasionally found in suburban stables. Country farms seldom if ever favor the production of this malady.

Considering the prevalence of the disease in certain localities, we might suspect contagion, but when we consider the fact that horses thus affected can be transferred to non-infected quarters without communicating the disease to the others, is sufficient reason to ignore contagion.

The different kinds of food do not have any influence upon the production of this disorder; the water which the horses in this locality drink is river water, containing a considerable quantity of earthy salts, but I cannot ascribe the cause to this water,

for the fact that non-infected stables use the same water. The disease originating from common colds is out of the question. It makes its appearance during the months from October to May. Its acute inflammatory rheumatic form is most striking from January to April.

SYMPTOMS.

A gradual failing of the appetite is first observed. Some horses quid their food, owing to the soreness of the maxillary bones. Pressure on the inferior maxillary bone gives rise to pain, indicated by the horse throwing his head to one side, partly opening the mouth and drawing away. The flanks become drawn upwards, the coat is staring. Lameness of one or more limbs is present. There may be a general stiffness, characterized by short steps due to a diseased state of the vertebral column. When driven the horse will sweat and tire easily, while in the stables he lies down a greater part of the time to rest. The seat of lameness is for the most part in the lower portions of the extremities. Lameness occurs in some cases by degrees, in others instantaneously and violently—as though they had stepped on a nail. In the former the symptoms are not very strong, while in the latter a febrile condition is quite apparent, characterized by swelling, tenderness and heat of the ankle down to the hoof. Twisting or extending the foot is very painful. By sounding the foot pain is experienced at the point of the frog, a peculiar symptom, which causes us to infer that it is a bruise or that a foreign substance is in that vicinity, but which is nothing more than pain produced by a concussion conveyed to the tendinous insertion of the flexor pedis perforans.

If lameness be present in one or more limbs the pain is excruciating; the patient lies down almost continually, and when urged to rise he will get up with difficulty—he trembles, arches his back and breathes rapidly with nostrils distended, and acts like a case of severe laminitis. When in this condition it often happens that he partially or completely breaks down in one or more of his limbs. This complication calls forth additional symptoms. The ankles of the broken down limb drop, in some cases touching the ground.

The anterior surface of the phalanges are concave; the pyramidal process of the os pedis is prominent. If the limb be used the weight falls chiefly on the heel. The toe has a tendency to turn upward. In this state the animal cannot stand long; however, the diagnosis can be made by manipulating the foot while he is lying down. Inflammation around the seat of rupture becomes very severe. Suppuration is established and the breaking through of the skin takes place at the fetlock. A finger can be introduced into the orifice which will come in contact with the coffin bone, that is if the separation be of the flexor pedis perforans tendon. I will here state that the tendon itself never ruptures but separates at the insertion, often tearing a piece of bone with it to which it is attached.

Next in importance is the separation of the flexor pedis perforans. This is not as frequent as the former; when it does tear, it tears at its insertion, taking with it the upper postero lateral margin of os cornea. This naturally does not allow the phalanges to drop entirely, although the displacement is easily perceptible. In such instances suppuration does not follow, but lameness and inflammation is intense.

Fracture of the os calsis is an occasional accident, that is complicated with osteo porosis, caused by over-exertion, in falling, or whilst struggling to rise. The symptoms are quite obvious. The point of the hock joint appears flattened, enlarged and painful upon pressure. Upon careful examination mobility is felt. The limb from the hock drops downward and forward, the hoof resting in close proximity with the forefoot of the same side, forming an angle of 45° .

Fractures of the sessamoid bones is not an uncommon occurrence in this disease. If it occur, it usually takes place at the inferior third of the bones, causing the ankle to drop partially and the inferior sesamoidean ligament loses its hold.

It sometimes happens that horses afflicted with this disease, while walking on a level street, by simple slip or misstep, can fracture the external angle of the illium.

One case of fractured metatarsus of a Shetland pony came under my observation, caused by a horseshoer, while attempting

to wrench off the shoe. The pony had suffered with osteo porosis for six months.

Patients suffering with dorsal and lumbar stiffness display a groggy gait, and when down it is difficult for them to get up. Some can be raised with a little assistance by the tail, while others require the use of the slings. They, however, can stand without any support when up.

Prognosis is very unsatisfactory. An entire recovery cannot be relied upon. They may make an apparent recovery, a partial recovery, they may die or it may become necessary to destroy them. The enlargement of the maxillary bones never disappears entirely, though the lameness and general indisposition may subside, but under exciting causes are apt to return. During the warmer months these patients can perform their work with comparative ease; even through some winter seasons they may escape a relapse. Especially is this true if the air be contaminated with other noxious ingredients, as those producing the various forms of influenza that we are visited by occasionally.

Treatment principally palliative, change of locality is the chief remedy. Send them to the country winter or summer; if they cannot travel send them by rail, boat or ambulance.

For acute inflammatory rheumatism application of warm water to the suffering extremities is beneficial. Blisters are often called into requisition, in obstinate cases with good result, but unfortunately only to follow with the treatment to some other limb where the lameness migrated to. Setons are of good service in rheumatic lameness of the hip and shoulder joints. Applications to the enlargements about the head are absolutely futile. Equally worthless is the use of actual cautery to these enlarged bones. Trephining them is absurd in the highest degree. Nor is the most skilful veterinary dentistry of any avail to restore their mastication and appetite.

Internal medication has not proven very satisfactory, though the administration of certain medicines is commendable. Salicylic acid, iodide potash, nitrate potash, powdered colchicum seed, cod liver oil with turpentine have acted favorably in many instances. The transfusion of lamb or calf blood has been tried with only

fair success. Grass, warm weather and long time are the best remedies that can be resorted to.

Aggravated cases lie down the greater part of the time and consequently get bed sore. This complication must be obviated as much as possible by plenty of clean litter. If bedsores do supervene, attention must be given to them.

Those cases that are unable to rise but can stand when up, had better be kept in slings at night to guard against injuries.

As to the prophylaxis, which is the most valuable information pertaining to osteoporosis, I cannot explain with any marked degree of certainty, owing to the vague knowledge concerning its origin. There is one thing, however, that I would advocate, and that is, the disposal of wooden floors and have the stall filled with clay, liberally supplied with pine or poplar sawdust.

RAILROAD HORSES,

THEIR SELECTION, MANAGEMENT, SOME OF THEIR DISEASES AND TREATMENT.

A paper presented to the New York State Veterinary Society by R. KAY, D.V.S.

Mr. President and Gentlemen:

The subject I bring before you this evening comprises railroad horses, their selection, management, some of their diseases and treatment.

Since we have about fifteen thousand head of horses working on the surface railroads of this city, it becomes the duty of us as veterinarians to give encouragement to each company to employ the best talent they can procure. It should be the work of the veterinarian to make the proper selection of such stock; secondly, he should overlook the handling of green horses during the period of acclimatization, or the change from country to city life and work; thirdly, he should note carefully their special ailments, that are brought about by this kind of work; and lastly, to see they are relieved or treated by the most scientific methods, and such as will result in the quickest recovery, using mild in prefer-

ence to severe means to accomplish this purpose, and keep the animal at work rather than laid up in the hospital undergoing some exhaustive experiment under the hands of the non-experienced person who happens to have charge of such stock.

SELECTION. For this work the veterinarian should be quite familiar with the external form of the horse, as well as anatomical parts, and normal from abnormal, as well as pathological conditions that may exist. He will select an animal past six years old, that stands about fifteen and a half to sixteen hands high, and weighing about ten hundred and fifty pounds when in good working condition, color not so much of an object, though roan probably the most hardy. The anatomical features to be noticed are first, the face wide, the jaws well set apart and deep, tapering towards the nose, but terminating with well dilated nostrils; the ears open, well forward and not too long; the throat clean cut and light at the junction with the head; the neck deeply set from the shoulders and arching from the withers; the back not too long; the hips wide; the ribs set well out and rounded; the fore legs set well apart, with long bones well developed at each extremity; good sized carpus and fetlock joint; the metacarpus flat and little connective tissue; the phalanges obliquely set and springy, to lessen the jar while traveling over the stone-paved streets; the foot with deep wall and almost circular toe, and wide set heel, sole evenly concave; the hind legs with long thigh and muscles well developed; the back not too crooked, well developed, but flat; the metatarsal bone flat and clean. In the common class of horses that are sent to this city for railroad work, we find many of them with coarse hocks, due to excess of development of the cuneiform bone. These we should not call spavin, nor reject them, as they will stand rough work better than others more finely developed. I know it would be impossible to select the number of animals to fill the vacancies caused by deaths on the several roads of this city, following the standard I have given, but I think we should act as teachers, through our Government, and show the people who raise this poor stock that well formed animals can be raised at the same cost price. This could only be accomplished by our Government selecting a well fitted man to visit these

breeding districts and watch their work, setting a good model in their way.

MANAGEMENT.—This would include the cleanliness of the animal, the stable and surroundings, and general hygiene, feeding, breaking to work, and amount of labor daily. Cleanliness of the animal would be accomplished by good grooming; and of the stable by water-tight floors, slats on the back half of the stall, with enough incline to drain off well; moisture taken up by the use of lime sprinkled on the floor daily; the walls, stalls and ceiling whitewashed often. A weak solution of sulphate of iron run down the gutter once a week will act as a good disinfectant and keep away rats. We have many deodorizers and disinfectants; the above is to be preferred, using one pound to eight gallons of water. It undergoes oxidation or decomposition, and converted into sulphurous acid solution, it is the cheapest, is odorless, and easiest managed of our disinfectants. Lime is also valuable. It is a caustic alkali and destroys the acid odors that arise from fermentation of such prepared food as the animals has left in the feed box or scattered in the stall. Its action as a disinfectant is by hydration, being capable of taking up sixteen hundred times its own volume of watery vapor. By this combination it gives off heat, causes currents of dry air, and thus destroys any fungi that may be floating in the atmosphere, as well as rendering better ventilation by their currents. Overcrowding should be guarded against, not more than fifty head in one apartment. Will be good to build the stables on each side of a square, leaving a court-yard in the centre for exercising animals that are convalescing from sickness or not able to work. If the extent of ground surface is small, it is better to have two stories than crowd so many on one floor. A double row, with walk down the centre and windows in front of the animal, will give good ventilation; sun blinds outside will add to their comfort in summer.

The stock should be divided into four sections: 1st—Those fitted for work; 2d—Those laid up by lameness or internal diseases, accidents, etc.; 3d—A reception stable for green horses to remain till broken in, and then transferred to the working stock; 4th—A stable for quarantine of animals with suspected

contagious diseases; this last to be entirely separate and nowhere connected with the other buildings.

FEEDING.—It would be impossible, if not impracticable, to feed fifteen hundred head of horses at one stable on hay and oats without preparing; therefore a system has been devised to chop the hay and grind the grain, generally using a mixture of corn and oats. It is prepared by wetting enough for the hay to take up the meal; some companies add salt daily, while others only once a week; each animal is allowed about twenty pounds of meal with ten pounds of chopped hay daily; in addition a little hay uncut is given in the evening. From my observations, I have noticed where salt was least used the animals were more subject to colic. I would not, however, say that colic arises from the lack of salt, though we know salt has an important office to fulfil in the stomach, that of going to form the hydrochloric acid of the gastric juice. We also know when a deficiency of gastric juice exists, the stomach digestion, or digestion of the albuminoids of the food taken in will be diminished, and thus a portion of such food is passed off undigested, setting up more or less irritation as it passes through the digestive tract; Secondly, we know the gastric juice acts as an antiseptic, and when deficient in quantity allows the food undigested to run on to fermentation, thus adding another factor for the production of colic. Thirdly, we know that nature has given that animal a most perfect set of grinders or molar teeth, to triturate the food perfectly before swallowing it. We have also noticed when that animal draws his feed, as hay, from the rack at his leisure, he keeps in better health. This is brought about by all the organs and apparatus acting in unison; the food well triturated passes slowly through the stomach, and the vaso motor nerves of the sympathetic system are not overpowered, but allow enough blood to come to the peptic glands and manufacture enough gastric juice to fully digest the food as well as act the part of an antiseptic. We therefore conclude that the artificial or prepared food used is one if not the principal cause of so much dyspepsia and colic that is so common to our railroad horses.

DISEASES.—The railroad horse is subject to all the known dis-

eases, but I will only speak of those most common in that class of horses.

1st, *Influenza*. Most green horses that enter the railroad stable have to pass through this disease, before they become acclimatized or accustomed to city life. They have it in the graded forms, as for example, one may only have a catarrh of the throat and nasal passages, while the second has it passing down the trachea, that as well as the lungs being affected; a third where it passes down the œsophagus, and has a general catarrh throughout the intestinal tract, while a fourth will have rheumatoid complications.

The treatment of the first form will be as follows: Put the animal in a good sized loose box, with good ventilation and thorough hygiene; preserve the external heat of the body by the use of blankets, a stimulating liniment, as capsicum, sulphuric ether and oil, with friction, and woolen bandages on the legs; renew the application daily and see these bandages are not too tight or interfere with the circulation. When the breathing is labored, use inhalations of steam; this will allay the irritation of the mucus membrane as well as promote the discharge. May give chlorate and nitrate of potash in the drinking water; can use glauber salts if constipated; good nursing; tempt the appetite with a variety of food; have patience, and this will be all that is needed.

The second form, when the lungs are involved, will require more active treatment. You must observe by physical signs the changes that take place daily in the lungs. If the pleura is affected and an exudation pouring out, apply the oil of cantharidis blister to the sides of the thorax. If the temperature is high give quinine, alternated with the amm. carb. pill, three or four times a day. If the throat is the seat of great pain, apply locally the above blister and give electuary in place of the pill. When the pleura is not involved, the oil silk jacket and flannel roller will take the place of a blister with a good soothing effect. Steam inhalations can be kept up.

In the abdominal form, if in much pain, the animal will be relieved by subcutaneous injection of morphia solution; add morphine

vomica to the amm. carb. pill, and after the inflammation has passed support the strength with gruel, to which alcohol must be added, but never give alcohol while inflammation of a mucous membrane exists, or the disease will be aggravated. In the rheumatoid form, use hot packs to which tr. opii has been added, and cover with oiled silk, if possible; internally give carbonate of potash or soda, using hypodermic injections of morphia solution till the acute symptoms are passed. The same instructions and treatment given in the first form, will be carried out in connection with the treatment of the other forms of this disease.

The next disease most common to the railroad horse is colic, either spasmodic or flatulent; the former most prevalent.

The treatment I found most applicable and with best results, is hydrate of chloral in pill form, adding pulv. zingiberis \mathfrak{z} i, to chloral \mathfrak{z} i, and a few drops of water to triturate into proper consistence, using oiled paper for a cover; one dose being generally sufficient in spasmodic colic, but if not relieved in one hour, I prefer to give morphia solution by hypodermic injection, though a second dose of chloral can be given at that time with safety. The dose of physic that is so often resorted to for such cases in private practice is seldom, if ever needed for these horses. In the flatulent colic, the chloral does little or no good, but rely on puncturing with the trocar; first cutting the hair off a circumscribed portion and covering with a plaster of belladonna after the operation. I never had any complications arise or bad results follow it. Internally I give terebinthinæ, \mathfrak{z} ii in an egg emulsion, preferring it to oil, which is so nauseous to the horse; besides, it serves every purpose of protecting the mucous membrane from the irritant action of that drug. I also see the rectum is emptied, and give the above with glycerine as an enema. In addition to the above, the hypodermic injection of morphia solution will allay the pain and stimulate the heart.

The next most common disease of the railroad horse is laminitis, and its pathology as well as its etiology is very imperfectly understood. Suffice it to say, the coronary band, the lamina, its corium or basement membrane and the velvety tissue, as well as the bone, (or pedis) may all be involved. These soft tissues con-

tain a dense network of capillaries and nerves. The causes of the above disease are various, but most frequently at the railroad stables, from hard driving over the stone pavement and in warm, muggy weather, where the animal is allowed to stand under the shed to dry off before putting in the stable. The animal thus exposed to drafts of cooler air becomes chilled on the surface of the body; a condition of hyperæmia of the vessels existed when the animal was brought in off the road, and this chill interferes with the return of circulation from this part; congestion and stasis follows, then an exudation of leucocytes takes place. If this is not excessive, resolution may follow, by the absorbent vessels taking up this exudate; while on the other hand, if this exudation be sufficient to block the absorbents, undue pressure will follow and structural changes take place, with suppuration and separation of the wall from the podophyllous tissue.

The treatment I have found most efficient for these cases is to remove the shoes and put the affected feet in as hot water as they can bear; keep in for three or four hours. When removed put on hot flaxseed meal poultice; give internally tr. aconiti gtts. x, every two hours for first day; alternate with nit. potassa, \mathfrak{z} ii, four times a day; keep up the bath, poultice and potash till the stiffness is gone, which generally is accomplished in four to five days. Slings are of little benefit, but care must be taken to give the animal a large loose box and plenty of bedding, and preventing bed sores.

DISEASES OF THE HEART IN DOMESTIC ANIMALS, ESPECIALLY THE HORSE.

BY FR. BLAZEKOVIC.

(Translated by J. C. Meyer, Sr., V.S.)

Continued from page 162.

The consideration of the thoracic aspirations is of particular importance for the essential enlargement of the cavities of the heart. This aspiration of the thorax, which is conditioned by the negatively exercised pressure of the lungs, would necessarily

counteract the diminution of the cavities of the heart, if it were not overcome by the contraction of the muscles of the heart. The thoracic aspiration influences therefore only the expansion and more strongly during inspiration than during expiration—during diastole—and results in filling the whole heart with blood during the short pause of relaxation. By the negative pressure, which the elasticity of the lungs exercises over the relaxed auricle, the lungs are filled during diastole more strongly with blood. The reflux of the blood is prevented by the closing of the valve of the auriculo-ventricular opening. Toward the end of the diastole of the auricle the chambers relax, the valves open, and in the moment of pause in which the four cavities of the heart are relaxed, the blood flows out of the auricle into the ventricle. By this means the auricle, notwithstanding the small space during the following diastole, can wholly fill the ventricle with blood. The lumen of the auricle becomes smaller during systole. Under the pressure of the contracted walls of the auricle the blood obtains its impulse to flow off into the existing opening; the ventricle being at the same time in diastole the blood can flow out of the auricle without restraint until a stronger filling of the auricle obstructs a further influx of the blood. The replenishing of the ventricle is assisted by the thoracic aspiration. The auriculo-ventricular valves cannot hinder the progress of blood into the ventricle, because during the diastole of the ventricle they form a funnel open above and below. The tubercle of Lower, which contracts simultaneously, acts at the same time as a dam and prevents stagnation of blood which might take place, in the vena cava, discharging nearly in the opposite direction. The flow of blood toward the auriculo-ventricular opening is predominant, because the contraction begins at the mouth of the veins and spreads over the whole lumen of the auricle. Still stagnation of the blood may happen during systole of the ventricle for, with the exception of the thebesii, other valve contrivances are lacking. They are, however, limited to a certain degree, for the strong muscular fibres, which, girdle like, encircle the end pieces of the vena cava, contract at the beginning of the systole of the auricle, lessen the opening of the vein and thereby render a stagnation more difficult. The

resistance against stagnation is also aided by the valves lying in the venous system. If circumstances occur in which stagnation of the blood in the right auricle ensues during the systole of the ventricle, for instance by an insufficiency of the tricuspid valves, the stagnation of the blood in the veins may become so significant that the rythmical expansion and contraction of the jugular veins is perceptible, a phenomenon which has been designated venous blood. The auricle being never entirely without blood during systole is noteworthy. Furthermore, the filling of the ventricle with blood is wholly independent of the varying pressure of blood in the veins. By means of the systole of the ventricle the blood contained therein receives an impetus to escape through both existing openings in each ventricle, but the moment after the systole of the ventricle, the auriculo-ventricular opening closes by means of the valves, the blood can flow into the pulmonary artery only, thus emptying the ventricle. The ventricle, however, does not remain entirely empty during the most violent systole.

The auriculo-ventricular valves, the tricuspid of the right and the mitral valves of the ventricle are of particular importance. Their peculiar position at the opening of the ventricle, so that the blood flows between these and the walls of the ventricle, influences greatly the circulation and action of the heart upon the least deviation.

As soon, however, as the pressure in the ventricle caused by the violent filling of blood, and through the influence of systole the walls of the ventricle contract, the auriculo-ventricular valves also begin to close completely. The completion of the heart's action and the normal condition of the circulation depend particularly upon the precision with which the valves close. As is known, the valves act as a damper and must produce such a complete closure, so that not a drop of blood can flow from the ventricle into the auricle.

At the commencement of the aorta and the pulmonary artery the semi-lunar valves prevent the return of blood through the arteries into the ventricle. These valves are applied against the walls by the penetration of the blood. However, in the beginning of the diastole of the ventricle the pressure of blood in the

origin of the arteries has become greater in the ventricle; the valves become depressed and form a pouch, which makes the reflux of blood from the arteries into the ventricle entirely impossible.

The mixing of the blood, which flows into the heart from the different parts of the body, is caused partly by the current and partly by the ruggedness of the inner surface of the heart, especially the fleshy parietes. It is generally admitted that the right ventricle receives and discharges a greater quantity of blood during inspiration than during expiration, which circumstance must be considered in diagnosing.

Of special value for diagnosis are the sounds and impulses of the heart, which arise by change of position and form of the heart, whilst the systole of the ventricle exercises a pressure upon the parts of the lungs situated between the heart and thoracic walls, causing a concussion of the thoracic walls, and results in the appearance of the heart beats and sounds of the heart. Accordingly the heart beat, which coincides with the systole of the ventricle, is confirmed, for the heart is soft and supple during diastole of the ventricle and during the systole of the ventricle becomes hard and elastic, and in consequence of the resistance which it encounters by the expelling of blood, the heart must change its position during systole of the ventricle.

I shall discuss the number, frequency, and regularity in timbre and the result of the hearts sounds in another part of this lecture.

It is necessary to take a minute consideration of the influence of the nervous system upon the normal state of the heart. Above all, it is noteworthy that the will can in no way exercise any influence upon the rhythmical action of the heart. The construction of the heart is therefore very peculiar in that it lacks every trace of motors for voluntary action. However, the heart, as every other muscle, possesses the property of irritability, which can be aroused by every possible impulse. The inner surface, however, seems to be more susceptible to mechanical and chemical stimulants than the outer; the sensibility, on the contrary, appears less important, for the animals exhibit no particular pain when the muscle of the heart is injured.

The action of the heart is no doubt dependent upon the central part of the nervous system. However, other nerve motors exist for it also for, after total destruction of the spinal cord and the brain the action continues for some time if the respiration be artificially maintained. Furthermore, it is remarkable that the destruction of the superior ganglion, the sympathetics and the thoracic walls do not cause the heart to stop immediately.

It is generally admitted that the precise rhythm in the movements of the separate apartments of the heart is dependent upon the intra-carotid ganglion in the small nervous parts, which are contained in the muscles of the heart. The latter in particular are to be found in the partition wall of the auricle and on the attached parts of the auriculo-ventricular valves.

The regulation of the rhythm seems to be arranged in such a manner by checking and accelerating mechanism, that it attains its activity periodically in definite rhythms. The regulated influence upon the rhythm and the force of the heart's action is attained by means of the plexus of the heart over the branches of the nerves of the lungs and the sympathetics. The outpouring and inpouring of the blood in the vessels in the human being gives positive proof of the correctness of my assertion. Division of the pneumo-gastric nerve causes acceleration of the heart's action, an irritation of the same nerve causes a retardation of it at its peripheric end. A violent excitement of the peripheric end of the pneumo-gastric nerve after its division causes the heart during diastole to come to a complete standstill (conf. Müller l. c.). The pneumo-gastric nerves are therefore in reference to the heart's action, inhibitory nerves, have a retarding and regulating effect upon the heart, inasmuch as they to some extent regulate and keep in motion the action which was released from the intra-carotid ganglion. Excitement of the sympathetic nerve results in the quickening the action of the heart and can be brought to action again even where it is already extinct.

(To be continued.)

CONTAGIOUS PLEURO-PNEUMONIA.

Thesis presented by W. ZUILL, D.V.S., before the University of Pennsylvania,
Medical Department.

INQUIRY INTO THE MORPHOLOGY AND CHARACTER OF THE MICROBE INFEST-
ING THE LYMPH SPACES IN PLEURO-PNEUMONIA.

(Continued from page 165.)

I have already referred to the microbe which I detected in the lesions of pleuro-pneumonia, and in the following pages I shall give some culture experiments which I made with this microbe. In reference to this part of my investigations, the following notes were taken:

Saturday, October 6, 1883.—To-day a piece of lung and some serum were taken to the University of Pennsylvania for microscopical examination, and to make culture experiments, with the view of determining whether or not any organisms were present, and if so, to study the nature and character of the microbe. The microscopical examinations of the serum showed numerous lymph corpuscles, a great deal of fibrine, and admixture of red blood corpuscles; there were also present large clouds of spherical bacteria *microbes*. The absence of bacteria thermo indicated that no putrifactive changes had taken place. A piece of the lung was also examined in glycerine, and it showed the same microbes as were found in the serum, besides the elements of the lung tissue. In preparing for the culture experiments carefully sterilized tubes were taken, which were partly filled with pure sterilized gelatine. All instruments used in connection with the operation were also subjected to high degrees of heat, for the purpose of destroying all germs. After all these necessary precautions had been taken, a very small piece of lung tissue, cut from the centre of the piece of fresh lung which was at hand, and with carefully sterilized instruments, was placed in a number of the tubes. Great care had been taken to preserve the lung tissue, from which the experiments were made, from infection from air. Immediately on the removal of the section from the lung, it was placed on a fold of cotton cloth, soaked with a solution of the bi-chloride of mercury, $1\frac{1}{4}$ grains to the ounce; this was folded around the piece of lung five or six times, and then carefully wrapped in

waxed paper, and again wrapped in cotton cloth treated as before, followed by waxed paper folded four or five times, and in this way taken to the laboratory. Contamination from air was absolutely impossible. Other tubes were inoculated with the pure serum from the lung, which was collected into vacuum tubes, by first inserting the point of the tube beneath the pleura of the organ, deep into the distended lymph spaces, and there breaking off the point, when the tube will immediately fill with serum, thus avoiding the slightest possibility of the entrance of air. As soon as it was full it was immediately sealed by the blow-pipe and alcohol flame, and in this way the serum was obtained absolutely pure. This serum was also used for culture purposes. Monday, October 8, 1883.—It was seen that germs had begun to develop in the culture. October 9.—Germs continue to grow; development to a much greater extent than yesterday. October 10.—Culture continues to develop; liquefaction is taking place. October 11.—The culture medium is nearly full of new growth, liquefaction has gone on, and a peculiar greenish-blue color invades the upper part of the culture medium. October 12.—The cultures were found to be very impure, as far as external appearances were concerned; that is to say, to contain more than one form of fungi, except two of the cultures in salt dishes, which showed development of the microbes only as a precipitate. This precipitate was marked in all the cultures. With the exception of the two salt dishes, all contained a micoderma, that is, a development of fungi at the periphery. The development of the precipitate fungi had a marked effect in liquifying the jelly. This was the more apparent, as two of the cultures, which showed little or no liquifaction, showed also less development of the microbes. There was no distinct difference in the cultures made from the serum and from the lung tissue, except that those from the serum appeared to give a purer culture than those from the lung tissue. October 13.—Microscopic examination of the culture showed that oidium existed in spores, and also in mycelium; large quantities of bacterium thermo could be seen. It was now found that our jelly was impure, which will make it necessary to go over the same ground again.

January 5, 1884.—After a number of attempts to obtain pure chicken soup for a culture medium, I at last succeeded. Having obtained a chicken of medium size, removed the flesh free from fat, bones and skin, it is then placed in a vessel of suitable size with sufficient water to make about sixteen ounces of soup, which is to be strained and filtered through a wet filter, which removes all the fat. This makes a beautiful, clear, amber-colored liquid, which must be placed into a Florence flask, and sterilized over a water bath at the boiling point. It is necessary to repeat this four or five times, in order to be sure of its purity. Having satisfied myself that the soup was pure, I proceeded to fill the glass bulbs which had been previously made. The serum used in this experiment was drawn into a vacuum tube, from beneath the pleura of the diseased lung, immediately on its removal from the body of the animal. This serum was mixed with a few drachms of the soup. The bulbs previously filled and sealed, were now opened, slightly warmed and a few drops of the contents forced out. The open end being now placed in the inoculating fluid, it replaces that which was forced out, and in this way as many bulbs as are desired can be inoculated. Here again great care was taken to prevent contamination from the air. The bulbs are now placed to one side or in the incubator, that the germs may grow. January 9.—Inspected cultures. They did not look very encouraging and were left for future examinations. Not having the success with these cultures that I expected, I find that I can go no further with my research at present, and I am very sorry that my time does not permit me to go into the investigation more exhaustively. I am not satisfied with my cultures, as I could not carry them on for a sufficient length of time, or a sufficient number of generations. My original intention was to inoculate animals with the isolated microbes; I have, however, given this up for the present, although this would have been a very important matter, to test the pathogenetic properties of the cultivated microbe. I therefore do not pretend more than to have demonstrated the constant presence of a microbe in the lesions, the blood, and serum, and which can be isolated and cultivated. The cultures of pleuro-pneumonia I still continue and I hope to be able to make some inoculation experiments on calves during the coming spring.

COLICS IN HORSES.

BY MR. LAQUERRIERE.*

(Continued from page 115.)

GENERAL ETIOLOGY OF COLICS.

The causes of the affections we are discussing are as numerous and various as the forms they assume, and these are as diverse as their modes of manifestation and the lesions they exhibit. At times the pathogeny is very simple; while at others only hypothetical presumptions can be ventured, and again, and commonly, the most minute and critical investigations will fail to reveal any intelligible facts connected with the case in hand.

In order to simplify the question of the etiology of these affections, we shall, like Reynal, divide them into the two general titles of first, the predisposing, and second, occasional causes.

At the head of the list of predisposing causes, we may, as others have done before us, refer to the anatomical disposition of the gastro-intestinal canal. The stomach is very small relatively to the intestines, and is, besides, unable to relieve itself by the act of vomiting, which would produce immediate, and very often, permanent relief. The small intestines, by their excessive mobility, are exposed to changes of form and situation; the mucous membrane being very vascular and very sensitive, is on that account very readily impressed by external causes, which may give rise to pain or to congestion, and often to both. The large intestines, not as mobile as the small, may still be easily displaced. The cœcum displaces itself backwards; the small colon becomes strangulated; the large colon itself is liable to become bent backwards at its diaphragmatic curvature. Again, by the special functions of the large intestine it is predisposed to agglomerations and to impaction of its contents; and at last, its enormous size, together with the thinness of its walls, expose it to corresponding danger of laceration of the organ under the influence of alimentary distentions. The walls of the stomach, also so thin, are in the same manner liable to laceration from the accumulation of bulky aliments, whether solid or liquid, in its cavity. The

* Translated from *La Presse Veterinaire*.

considerations thus summarized may partially explain the appearance of nervous colics and intestinal congestions, while the occurrence of indigestions, either simple or compound in character, may account for the displacements of the intestines, the production of invaginations, stercoral masses, volvulus, or lacerations and rupture of the bowels or the stomach.

The predisposing influence of "breeds" or "strains" is without importance, and will not repay discussion; colics belong to all breeds. There are individual cases, however, of well marked and undeniable predispositions; these may be found in aged or worn-out and overworked animals, in those whose digestive apparatus is in bad condition, and especially in cribbing horses.

Climates seem to have no sensible effects upon the development of colics. They seem to appear as often in warm as in cold or temperate climates.

Notwithstanding what has been said, however, seasons have a certain predisposing effect. Cases occur oftener in summer than in winter. This is not, however, the result of a direct predisposition, the fact being mainly due to the temperature of the liquids absorbed.

Rest in the stable is always a predisposing cause.

We do not believe, so far as army horses are concerned, in the influence of new hay or oats; on account of the manner in which these varieties of feed are distributed.

As to the predisposition produced by a diseased condition of the great mesenteric artery (aneurism), upon which Zundel places so much weight, we attach but little importance to it. But, on the contrary, we recognize the predisposition accompanying advanced age. Young and lymphatic horses, as well as very nervous young animals, are quite subject to colics. Aged animals are not any the less subjected to this trouble, either from the wearing and irregularity of their teeth or the imperfect performance of the function of some part of their digestive apparatus. Horses from eight to sixteen or eighteen years, in general good health, are less subject to colic, especially in the army.

Foremost among the occasional causes must be placed cold. Cold water, drank while heated, in many instances, induces serious

colics. Snow eaten by horses, especially while warmed, has an astringent effect upon the gastro-intestinal mucous membrane, followed by congestions which often result fatally.

Exposure to cold without suitable warm covering, especially if the abdomen is unprotected, often produce similar difficulties. It gives rise to nervous colics, congestions and indigestions, each of which may be followed by the already known complication. In this case, the action of cold is explained, first, by the functional sympathy which exists between the cutaneous and the digestive apparatus; second, by a central circulation made more active by the diminution in the circulation resulting from the constriction of the cutaneous vessels; third and especially, by reflex actions upon the stomach and the intestines.

The sudden and powerful contractions produced upon the intestines by cold may give rise at once to volvulus, or invaginations, or other spasmodic intestinal displacements.

Heat, by relaxing the tissues and diminishing the tonicity of organs, may predispose to colics, and even to hernia, but cannot produce them by any direct action.

Besides cold, any other causes likely to modify or interrupt the gastric-intestinal functions, are likely to give rise to indigestion, and simultaneously, to more or less serious congestions. Change of regimen, violent exercise, a lesion already present, a certain condition of the system, too much food, liquid or solid; food of bad quality, violent physical pain, excessive work too closely following a heavy meal, or with an empty stomach—these may all become so many conditions under which colics may appear.

CHAPTER III.

ANATOMO-BIOLOGICAL AND PHYSIOLOGICO-PATHOLOGICAL CONSIDERATIONS UPON THE INTESTINAL TUBE OF THE HORSE.

1. *Anatomo-physiological considerations.*—The digestive apparatus is, of course, one of the most important of the economy. The normal execution of its functions insures the conservation of the individual, and preserves, in all the apparatus of the organism, the intimate solidarity which makes an organized body such a wonderful mass of various mechanisms, whose association

allows them, nevertheless, to preserve a certain independence, while at the same time they all co-operate towards a common object, the perpetual renewal of the organic life. It follows from this fact, that any disturbance of this apparatus soon extends to the entire organism; from thence to the cerebro-spinal system, and by reflex action to all parts of the body.

To repair all losses, the digestive apparatus receives the food into its cavities, where, by a series of sensitive and peculiar acts, it chooses and selects, both by its physical and chemical instinct, so to speak, and modifies that food, the assimilable portion passing into the circulatory current, while the other is rejected, as unfit for the work of repair.

Outside of its accessory organs, the liver and pancreas, the digestive apparatus is, in the abdomen, constituted by a musculo-membranous canal, twisted or reflexed upon itself several times, but whose dimensions as well as functions, vary very much. It is composed, as we are all aware, of the stomach and the intestines.

The stomach, simple in the horse, is besides, of a small size and of limited contents, compared with the enormous capacity represented by the intestines, and especially by the large colon. In consequence of this anatomical disposition the ingested masses remain but a short time in the stomach, and rapidly accumulate in the large intestinal reservoir, where the act of digestion, commenced in the stomach, is completed. Again, from the small size of the stomach, it is unable, even when distended, to interfere to any considerable extent with the circulatory function, and the displacements caused by the motions of the horse may with any ordinary gait to a certain extent always take place without detriment to the animal.

The intestines are formed of two portions very distinct, both as to their form and their functions. The small intestine constitutes a long cylindrical canal, uniform in size, and susceptible of a variety of displacements. Through this the chyme flows, more or less rapidly, after its formation in the stomach, and receives and intermingles with the biliary and pancreatic fluids, which here also meet the secretion formed abundantly by the mucous mem-

brane of the intestine itself. This first portion of the intestine possesses a vascular and nervous organization perfectly in proportion to the important functions belonging to it. This accounts for the delicate sensitiveness of this viscera, and especially of its mucous membrane, while its mobility explains the pathological modifications to which it is subject, and its abundant vascularity accounts also for the multiplicity of the congestive and inflammatory processes to which it is liable.

The large intestine has its special reservoirs in the cœcum and the large colon, in which is contained and completed the elaboration of the digestive fluids. It serves, especially the cœcum, as a second stomach, in which the remainder of the non-absorbed liquid is terminated. From this point the ingested aliments, deprived at last, more or less, of their soluble and assimilable principles, are concentrated and taken on their travels through these viscera in a more or less developed consistency. These alimentary matters, thus modified, reach the small colon and there are subdivided and pass to the rectum, to be expelled by the final aid of defecation.

Such, in a few words, is the functions of this apparatus. By its normal performance, the soluble portion, or that which has become so, of the food, has been absorbed and passed into the circulatory system, while the other and useless portion is thrown back in the external world where it comes from.

This canal, in which are thus collected and manipulated, as in an immense laboratory, the great physico-chemical materials and operations of digestion, is composed of three superposed membranes: 1. A serous envelope, dependent on the peritoneum, and possessed of all the properties of this form of membrane. 2. A muscular tissue, composed of unstriated, contractile fibres, whose excitation is under the influence of the pneumo-gastric and great sympathetic nerves. It forms what we call the *gastro-intestinal muscle*. This, by its peristaltic and anti-peristaltic contractions, forms the active agent in the ingestion of the solid, liquid and gaseous substances that travel through it. 3. A mucous membrane, constituting over almost its entire surface an extensive apparatus of secretion and absorption, whose abnormal functions

would give rise to a special sensibility and principally to an increase in the circulation of the blood, quite abundant in some parts of its extent.

Every portion of the gastro-intestinal ground is adapted and appropriated to a special system of circulation whose numerous anastomoses and capillary networks carry in each living molecule of the stomach and intestines the elements necessary to it. Veins are relatively considerable and constitute in ramifications the system of the vana porta; the lymphatics are numerous and their vessels collect to the reservoir of Pequet. Nerves rise from the solar and semi-lunar plexuses, forming themselves by a division of the great sympathetic and of the pneumo-gastric. They give to the mucous membrane a sensibility which, obscure and latent in normal condition, may be so transformed and perverted in their action as to give rise to the most excruciating pains.

Such being the organization, one may readily understand how all these organs, so beautifully arranged by nature, may undergo such pathological modifications as may at any moment disturb and prevent the perfect execution of their functions. It is these functional troubles of various orders that cause the morbid phenomena to which the familiar name of colics has been given.

(To be continued.)

REPORTS OF CASES.

CYSTIC CALCULI.

BY DR. F. W. DERR, Veterinary Surgeon.

On June 6th I was consulted about a grey mare of Norman breed, six years old, that had been for a year past discharging blood while at work, and for two months had a dribbling of the urine while at work; did not discover much while standing in the stable. Such is the history of the case Mr. C. M — related to me, from which I made out a case of cystic calculi, which I told the owner, and which diagnosis proved correct after making an examination.

I had her prepared by keeping her off work for a few days, with light food and laxatives, so that when she was brought to the

infirmary, on the 13th, a week later, I removed from her a calculi that weighed four ounces. I introduced into the neck of the bladder a curling iron; with it I dilated meatus urinarus, she being a very large mare, and taking plenty of time, I dilated it large enough to remove the stone by breaking it in two with a large pair of forceps that I had made for the occasion, as I could not get a pair that were strong enough. After removing the stone I made an examination of the bladder and found its walls considerably thickened, with the mucous membrane roughened; washed out the organ with tepid water; gave anodynes, with laxatives. The case did well, the animal going to work on the sixth day after the operation.

STRICTURE OF THE RECTUM.

BY THE SAME.

On April 27th I had a call to see a mare that the messenger said could not evacuate her fæces and was suffering considerable pain. After arriving at the place and getting a complete history of the case, I found that it had been one of inversion of the rectum. About three weeks before my being called, the mare had been treated by a veterinary surgeon who went on the principle of letting nature take its own course, which is very good in some, but will not do in all cases.

I proceeded to make an examination of the rectum, which caused her considerable pain, as she had not evacuated the gut since the day before, the owner, Mr. Sannel Caldwell, telling me he usually raked her night and morning. I found a constriction of the gut of a fibrous nature about midway of the rectum about two inches wide, closing the gut, so that I had to use some force. After having removed the fæces to get my hand through the stricture, I tried various methods to reduce the stricture, by dilation, medicine, etc., but failed in all. I then made up my mind to divide the stricture, never having seen a case before. With my left hand in the vagina and my right in the rectum I made an incision through the interior part of the stricture until I could feel the edges of the scalpel through the gut; I also made two lateral cuts. After the operation, in about three hours, the patient had a

desire to evacuate her bowels, which she did without assistance, but had considerable pain in doing so.

I gave her warm water, carbolized, three and four times daily; made an examination of her rectum every few days; kept the wounds in the stricture, etc., open. In about a week she had no trouble in expelling her fæces, and was sent home on May 27th. I made another examination and found the rectum where the stricture had been had assumed a normal condition and the animal was all right.

FATTY DEGENERATION OF DIAPHRAGM.

By E. R. FORBES, V.S., 2d Cavalry, U.S.A.

On the evening of March 1st I was hurriedly called to see a brown mare which had recently been taken from a earload of through stock. On my arrival I found her in great distress, respiration rapid and difficult, nostrils dilated, pulse feeble and oppressed, running 90; Schneiderian membrane red and injected, extremities deathly cold. Not having a clinical thermometer with me, I was unable to take the temperature.

Upon inquiry, I learned that the symptoms had been first noticed about half an hour before my arrival. Although the symptoms indicated pulmonary congestion, yet I feared other complications and reserved my diagnosis. In about half an hour she began to show great uneasiness, stamping with the hind feet, heaving from side to side; extremities deathly cold, pulse rapidly running down, and occasionally attempting to sit back upon her haunches. I now diagnosed it as a case of rupture of the diaphragm, the dyspnœa being caused by the protrusion of the intestines into the thoracic cavity. Death occurred in about two hours from the time when she was first noticed to be sick. The post mortem proved it to be a severe case of pleuro-pneumonia of long standing.

On opening the thoracic cavity on the left side about two gallons of effusion escaped; the pleura, covered with false membranes, and the parenchyma presented a dark brown appearance, closely resembling the color of the liver. The diaphragm showed complete fatty degeneration, was ruptured in two places, and about four feet of the intestines protruded into the thoracic cavity. I report this case as probably the only one on record.

MORTALITY AMONG COWS IN PASSAIC, N. J.—LEAD POISONING
OR PLUMBISM.

By WM. HERBERT LOWE, D.V.S., State Veterinary Inspector, Paterson, N. J.

The people of Passaic have recently been aroused to a state of considerable anxiety owing to what was considered to be an outbreak of some dreadful malady among their cows, which were taken sick simultaneously in different parts of the city, thus causing widespread alarm. Upon inquiry I learned that they had all been pastured in one field of a few acres. Many became very sick, and generally died within a few days from the date of their illness. Dame Rumor sent flying reports in all directions, and as most of the cows were giving milk, fears were entertained lest it should be unfit for use. A physician of Passaic City, who was the owner of one of the animals in question, made an analysis of the water to which they had access, but without throwing light on the cause of the sickness. The Passaic papers published the opinions of many persons, medical practitioners and others, yet the nature of the disease still remained a mystery. The condition of things were reported to Dr. Newton, City Health Inspector of Paterson, who requested me to visit Passaic, in behalf of the State, and investigate the nature of the disease. It was quite evident that it bore little relation to any of the contagious diseases, not even to "pleuro-phenomena" which one cow doctor, with great gravity, declared it to be. But it was certainly phenomenal, and to more than the bovine scientist. The symptoms, however, indicated lead-poisoning, which I pronounced to be the cause of all the trouble. Then I went to Dundee, a place a few miles distant, to which a carcass had been removed, made a post mortem, and found pellets of white lead in the stomachs in a more or less sub-divided state. Next day another post mortem still further verified the correctness of my conclusions. A third post mortem left little if any doubt of the accuracy of the diagnosis. Dr. Farrington, Veterinary Surgeon of the U. S. Quarantine Grounds at Garfield, was present at the last mentioned autopsy. His views, in every particular, I am at liberty to say, I think coincided with mine.

The finding of the lead caused interested owners to search the pasture, where several paint cans and a paint brush were collected. It was supposed that they found their way to the field from some buildings that had recently been erected in the neighborhood.

I would like to ask the attention of professional readers to the fact that I did not find some of the symptoms, as recorded in the books, so marked in the animals which came under my observation as they would lead me to expect. How long the lead had been in the systems of the animals it is impossible to say, but the aggravated symptoms were of short duration, a few days only, and not prolonged to weeks and months as Finlay Dun states in his *Materia Medica*. In one of the post mortems I found on opening the cranial cavity that the brain was greatly congested, and the blood vessels engorged. The organ mostly diseased was the liver. But to attempt, on this occasion, to particularize or differentiate between pathological conditions, as revealed by the autopsies, and those recorded in the text books, would exceed the scope of this communication, which is merely intended as a brief report of lead poisoning on a large scale, and for that reason may find a place in the pages of the *REVIEW*.

EXTRACTS FROM FOREIGN JOURNALS.

A CASE OF EXTRA-UTERINE FETATION IN THE BITCH.

BY J. H. CARTER, M.R.C.V.S.

The following remarkable case came under my notice on the 26th of February last, when I was hastily summoned in the early morning to make a post mortem examination of a mastiff bitch which had died very suddenly and unexpectedly during the night, she being apparently in excellent health only a few hours previously to being found dead.

Owing to death taking place in such a sudden and mysterious manner, my first impressions were those of poisoning; but before expressing such I made inquiries as to her previous history, and was informed as follows:

The bitch was purchased on the 1st of July last, and three weeks prior to this date was delivered of three dead pups. She

was again put to the dog on the 13th of December, and was due on the 14th of February of this year. She showed no signs of pregnancy, and it was not until the 26th of February that death took place (just twelve days after she was due to pup).

Upon turning the bitch over to examine the external parts of the body, I perceived a most offensive smell, which, upon closer examination, I found emanated from a fluid of a greenish-yellow color issuing from the vagina. Upon further inquiry, I was informed she had discharged a fluid similar in character (per vagina) for six months or more.

Post mortem appearances were as follows :

The Lungs, right and left, were very pale, anæmic, and extremely emphysematous; there being dilation and rupture of the air-cells throughout their entire structure.

The Heart.—The pericardial sac contained an abnormal quantity of straw-colored fluid; the heart itself presented no abnormal feature beyond the right cardiac verticle being somewhat distended with blood of a dark, tarry consistence.

The Liver was darker and more friable than normal; whilst the gall-bladder was empty.

The Stomach was inflated with gas, and contained some foreign substances such as straw, pieces of wood, etc.; the intestinal canal presented inflammatory patches or ecchymoses throughout its whole course, the mucous membrane peeling off readily to the touch, so as in some parts to be entirely nude.

The Bladder was distended with urine, and appeared healthy. The uterus and left Fallopian tube were the seats of extensive morbid changes. The uterus was very much distended, and upon laying it open, a great quantity of purulent matter made its escape. The mucous membrane was flabby, pale and thickened, and had numerous short hairs of a fawn color firmly embedded in its substance. The Fallopian tube was very much elongated and distended in its centre, resembling somewhat in shape the horse's stomach. Upon opening this distended portion, another quantity of purulent fluid made its escape along with several bones, all completely ossified, and partially covered with hair of a fawn color. There were six bones in all, four of them being cranial, one

humeral, and one sacral. The mucous membrane lining the tube was very much thickened, corrugated and deeply grooved; these grooves running parallel to the long axis of the tube. The muscular coat of both vagina and left Fallopian tube were very much hypertrophied. This hypertrophy of muscular tissue may be accounted for in two ways, viz.: it may possibly have been produced by irritation and inflammation, set up by laceration of the soft parts during the transit of the missing bones; otherwise we may account for it as being an effort of nature to so strengthen these parts as to enable them to expel that which was foreign, and no doubt a source of irritation and trouble to the poor brute.

The missing portions of the foetus must have either become absorbed, or otherwise passed away during the period of the discharges per vagina before mentioned. I think the latter hypothesis the most probable. From the condition of the bones found, the foetus must have reached a high state of development. In my opinion the foetus must have been imprisoned on the tube where its few remains were found for a period of over nine months; in fact, ever since she was delivered of the three dead pups in June of last year, otherwise how are we to account for the constant purulent discharge per vagina which had been noticed for over six months previous to her death. And then again this fluid per vagina corresponded in character with that found in both the uterus and left Fallopian tube. I think there can be no doubt as to this being a true case of tubal foetation, and that foecundation took place in that part of the tube where the bones were found. The question now arises which of all these morbid phenomena was the direct cause of death. I shall be pleased to hear the opinions of some of my learned brother colleagues.—*Veterinarian*.

EARLY LACTATION IN A FOAL.

BY PROF. J. WORTLEY AXE.

The following account of a case of early lactation in a foal has been received from Mr. Freer, veterinary surgeon, Uppingham. He says: I was requested yesterday to see a foal said to have a bag as big as a ewe. On my arrival I found a strong, healthy mare foal, eighteen hours old, with a well-developed mammary

gland about as large as you would expect to find on a pony with first foal; the teats as large and long as the first joint on the little finger, and from which I quickly extracted about half a pint of milk, or fluid very much like it, a small quantity of which I send for your inspection. During twenty years' practice in an agricultural district I have neither seen nor heard of anything like it before.

My advice to the owners was to relieve the gland occasionally, and if it became tense and painful to foment with warm water. I also advised a brisk dose of castor oil and that the mare be kept in and on dry food.

The fluid referred to was of a dull greyish-white hue; specific gravity 1030; reaction to test paper, neutral. It presented an opaque appearance, but in a less degree than ordinary milk. On being allowed to stand, a thin layer of cream rose to the surface; examined with the microscope, milk globules were seen in large numbers. The addition of acetic acid caused the fluid to assume a more dense white appearance and to throw down a finely granular precipitate.

Lactation in infancy is by no means a rare occurrence in the human subject, but we do not remember to have met with a case in the lower animals, where this function was so prematurely and freely exercised.

Since writing the above, Mr. Freer reports: The foal is going on well. The gland has wasted considerably, but for more than a week after I wrote you the milk was often seen running away from it.—*The Veterinarian*.

PATHOGENIC MICROBE OF INFLUENZA.

BY THE SAME.

Cultivations have been made with the fluid extracted from the lungs of diseased horses, with the pleuretic exudate, the nasal discharge and the blood. As elements of culture, gelatine, serum of the blood of horses and slices of potato have been used. Six varieties of microbes were obtained. The one which he considers as being the germ of influenza forms cultures whose coloration

varies between light and citron yellow. The spots they form develop themselves in width and in rounded spaces. They grow slowly, more rapidly in gelatine than in the serum of the blood of the horse. The cultures to succeed need the contact of the air, therefore are formed by an ærobic microbe, which has the form of round bacillus of small dimensions. Inoculating under the skin of the pectoral regions of a four-year old horse, the culture of this microbe has given rise to a very painful inflammatory œdema. This developed into a circumscribed tumor, which became indolent and spontaneously ulcerated in two places. The openings gave escape to a rosy liquid, mixed with little yellow and whitish masses. This only proves that the inoculated fluid had pathogenic properties. Mr. L. goes further; he considers the ovoid bacilli as the pathogenic element or influenza.—*Gazette Medicale*.

UPON THE MICROBE OF CONTAGIOUS PLEURO-PNEUMONIA.

BY PROF. LUSTIG, of Hanover.

Researches have recently been made by the author to discover the pathogenic microbe of contagious pleuro-pneumonia. In appropriate cultures he has placed portions of recently inflamed lungs, lymph obtained from the interlobular connective tissue. He has succeeded in separating, in a condition of pure cultures, four varieties of microbes, viz.:

1. A bacillus which liquefies the gelatine of culture and forms upon the edges of the liquefied zone pulverulent masses of a whitish-gray color. As soon as the gelatine is entirely liquefied the bottom of the glass is filled with a deposit of powder of similar nature. The liquefied gelatine which is on the top either keeps its natural yellow tint, slightly cloudy, or, less frequently, is almost colorless and clear; while again it may present a red or green tint with more or less transparency. These variations of color depend on the proportions in which the other varieties of microbes exist in the cultivations. The microbes of the first kind are always more numerous and destroy the others in time. They appear as thick and short rods.

2. A microbe which does not liquefy the gelatine, but forms

on its surface a deposit like the albumen of an egg. The gelatine is absorbed by degrees as this culture progresses.

3. A micrococcus having analogies with the above, distinguished from it by the golden yellow tint of the masses that it forms.

4. A micrococcus which forms yellow-orange colored masses on the surface of the gelatine of cultivation, with a waxy appearance. Like those of the first two kinds, this micrococcus does not liquify the gelatine. Placed upon slices of potato, it develops better. When the cultures are colored with the blue of methylene, they are found composed almost exclusively of micrococci of very small dimensions, some isolated, others coupled up diplococci shape, or in greater number, so as to resemble bacteria.

Inoculations made upon a heifer with the cultures of the first three varieties of microbes gave only negative results. Inoculations made with cultures of the fourth kind to the thoracic region, to the root of the tail, have given rise to local troubles, that is, the formation of two tumors, one the size of a goose egg, the other (that of the tail) the size of a pigeon's egg. Both tumors were sub-cutaneous and were rapidly resorbed.

Then again, in cultivating the liquid exhaust of the healthy pulmonary structure, Mr. Lustig has obtained the pure development of the first three varieties, but never the microbe, orange-yellow color, of the fourth. This Mr. L. believes to represent the germ of contagious pleuro pneumonia.

In another article, the author states that by more recent observations the fresh cultures of this yellow-orange microbe are in great part made up of bacilli, which present points of a darker coloration (formations of spores). They are short, thick and moving rapidly.—*Gazette Medicale*.

PRESCRIPTIONS FOR GENERAL TUBERCULOSIS AND TABES MESPENTERICA IN CATTLE.

BY J. BRODIE GRESWELL, M.R.C.V.S.

Having found the following formulæ very useful in the treatment of general tuberculosis and of tabes mesenterica in beasts, I venture to submit them to the notice of the readers of the *Veteri-*

nary Journal, in the hope that should any practitioners think well of them they may receive a more extensive trial :

- 1.—Creosote..... ʒ i.
- Calcii sulphitis..... ʒ ii.
- Ferri sulphatis..... ʒ iii.
- Pulv. zingiberis..... ʒ i.

Misci; fiat pulvis.

To be given twice daily in a quart of ale.

- 2.—Olei morrhuæ..... ʒ x.
- Calcii sulphitis..... ʒ iii.
- Ferri sulphatis..... ʒ iii.
- Liquoris strychniæ..... ʒ ii.

Misci; fiat haustus.

To be given once or twice daily.

- 3.—Olei morrhuæ..... ʒ viii.
- Tinctura gunni Eucalypti..... ʒ ss.
- Calcii sulphitis..... ʒ ii.

Misci; fiat haustus.

To be given once daily.

This latter is especially beneficial when there is much diarrhoea. I have not as yet administered it nearly so often as the two former prescriptions, but I believe it to be equally if not more efficacious.
— *Veterinary Journal*.

RUPTURE OF THE RECTUM IN A THOROUGHBRED BROOD MARE.

By A. J. MACCALLUM, M.R.C.V.S.

An urgent messenger came for me on the evening of March 4, requesting me to at once visit a thoroughbred mare belonging to a client of mine (Mr. Y—) of B.B. which was said to have been ill for four or five hours, and suffering great pain. I went off immediately to the place, which was about four miles away. On my arrival I learned that the mare was nine months gone in pregnancy; had been in her usual health till about midday, when she was noticed getting up and down and seemingly in pain. Thinking she was only slightly griped they took little notice at first.

I found the mare in a loose box. She was looking very haggard, trembling a little; legs and ears cold, mouth clammy; mucous membranes pale; a running down pulse, and abdomen slightly tympanitic. She looked wistfully round at her flanks, pawed a little, and seemed to have great pain. I at once gave her a powerful anodyne draught to relieve her pain, while I proceeded with my examination and inquiry as to her history. I learned that she had been used as a brood mare and the dam of a good stock; that she had always been healthy up to that day. She had been getting the usual food, viz., corn and hay and a little boiled food at night; that she was led out every day for exercise. While being led out that morning she seemed duller than usual, but showed nothing calling for special notice. I also learned that she had got a fright about ten days previously when going out at the stable door, and had an ugly fall. She got up and walked away, seemingly none the worse, and those who saw it thought no more about it. I attached great weight to the fall, and proceeded with my examination. I found, on passing my hand along the vagina, to ascertain the condition of the uterus, the os dilated sufficiently to admit my three fingers; the animal strained a good deal while I was doing so. I next passed my hand into the rectum. I found the passage loaded with rather dry broken faeces, which I proceeded to remove. I had cleared out the passage to the extent of twelve inches or so. To my horror I found the bowel was quite ruptured, and only attached by a mere rag of membrane on the left side at the part indicated. The faeces was quite filling up the pelvic cavity. I cleared it away and everted the free end of the bowel, which I found bore traces of having been badly bruised, and seemed as if it had been rent. I then proposed to myself what I could do for the best in the circumstances. My first idea was to make a new attachment for the free end of the bowel within the sphincter, but finding the faeces all scattered about within the abdomen, I concluded that would be useless. I told my client that the mare's case was hopeless. He inquired whether nothing could be done to save the foal. I answered that seventh month children often lived and did well. If the foetus was still alive, it might be worth the experiment to try

and save it. I found on examination that it was all alive and kicking. I at once put the mare under the influence of chloroform. When I had her completely under it I made a smart section along the linea albi, released a very handsome colt foal from the womb and its appendages, rolled it up in a hot blanket, and carried it away to the front of the kitchen fire, giving orders to have mare at once destroyed by a knock on the head, which was done. The foal was comatose for five or ten minutes, when it became all right. It seemed much finer in the coat than a full matured foal; otherwise it looked very well. I gave directions about its maintenance. I have since learned that it only lived three hours. I made a post mortem examination of the mare. This revealed nothing but the peritonitis and the rectum much discolored; all the other organs were quite healthy.

As I am rather in a difficulty about the cause of the rupture, I submit the above particulars in the hope that some of our learned friends will clear it up.

I am of opinion that it was caused by the fall at the stable door ten days previously. But, then, how did the animal continue to eat her usual food, take daily exercise, pass feces, micturate, and seem otherwise in good health for the intervening ten days between the accident and the fatal illness on the day of my visit? — *Veterinary Journal*.

OFFICIAL APPOINTMENTS.

Dr. Julius Gerth, Jr., has received from the Governor of Nebraska the nomination of State Veterinarian. Dr. G., who was enjoying a good private practice in New Jersey, is the first veterinarian that was ever appointed by a City Board of Health as meat inspector. His appointment then was followed by a regulation of the Board, making it obligatory for candidates for the said position to be veterinarians.

Dr. G. Keefer, of Hillsdale, Mich., has been appointed Territorial Veterinarian for Montana Territory, the commission being dated July 3, 1885.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

LIST OF OFFICERS WHOSE TERMS OF OFFICE EXPIRE AT THE NEXT MEETING.

President—Dr. W. E. B. Miller; *Vice-President*—Dr. L. H. Howard; *Secretary*—Dr. C. B. Michener; *Treasurer*—Dr. Ch. Burden.

Board of Censors—Drs. A. Liautard, J. L. Robertson, W. H. Hoskins, J. C. Meyer, Jr., J. Corlies, W. Bryden and W. J. Crowley.

Library Committee—W. J. Coates and J. Critcherson.

Committee on Intelligence and Education—J. L. Robertson, W. Howe, C. P. Lyman, W. H. Rose, Dr. Detmars.

Finance Committee—W. Pendry, D. J. Dixon, J. Saunders.

Committee on Diseases—A. Liautard, J. Winchester, A. Zuill, J. C. Meyer, Jr., J. D. Hopkins.

Prize Committee—J. Corlies, C. H. Peabody and S. K. Johnson.

Drs. Hoskins, Howe and Bryden were appointed a special committee to urge upon all veterinary colleges a uniform standard of examination.

CORRESPONDENCE.

DAMASCUS, Ill., June 29, 1885.

A. Liautard, M.D., New York City :

DEAR SIR—I report to you two prolific cows, the property of Rudolph Stotaman of Eleroy, Stephenson Co., Ill. On July first past both cows gave birth to twins. The following May first past both cows, the same, gave birth to twins again.

Yours,
JAMES ALBRIGHT, V. S.

OBITUARY.

A. ZUNDEL.

Since the issue of our last number, the inexorable fiat has called from the ranks of the veterinary profession many good members and worthy workers; but amongst them all none was

better esteemed or more widely known in the veterinary world than A. ZUNDEL, the Superior Veterinarian of Alsace-Lorraine, the author of many valuable publications, and the reviser of D'Arboval's Dictionary, a work which is accepted as the most complete and reliable encyclopædia of veterinary medicine now known, and which is destined for years to come to maintain its standing as the best work of reference for the veterinarian practitioner, the agriculturist and the stock raiser, thus far published.

The veterinary literature of France and Germany are debtors to M. Zundel for many excellent original papers and pamphlets, which his proficiency in several languages, together with his active temperament and untiring industry, thoroughly qualified him to produce. These various works fitly illustrate his zeal for the advancement of his chosen science, and nobly exhibit his character as its earnest exponent and the unselfish friend and helper of his brother practitioners of all nationalities. He was graduated at the School of Lyons in the year 1856, and his decease occurred on the 18th of June of the present year, after a long and painful sickness, having just entered his fiftieth year. When in his company two years ago, having met him at the congress of Brussels, we little anticipated so early a termination of so useful a career, as after the day's work of the congress we indulged in friendly conversation upon our respective labors. He expressed to us at that time his earnest desire to visit the United States.

The veterinary profession loses in him one of its best and most indefatigable workers, while those who knew him personally have to regret the loss of a warm friend and valued adviser.

DR. E. M. PERRY, M.R.C.V.S.

Intelligence of the death of Dr. E. M. Perry has also reached us. He graduated from Harvard College, and became a member of the Royal College of Veterinary Surgeons of London, in 1878. He was established in practice in New Bedford, Mass., and died suddenly from apoplexy. He was pleasant, genial and social, and possessed a large circle of friends.

SOCIETY MEETINGS.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

The regular annual meeting of the United States Veterinary Medical Association will be held at the American Veterinary College, 141 West 54th street, New York, on Tuesday, September 15, at 10 a.m. It is hoped that all members will be present. Petitions for membership should be addressed to the Secretary prior to date of meeting. The Secretary also desires that all those who have not received certificates of membership should acquaint him of the fact at their earliest convenience.

C. B. MICHENER, *Sec'y*,
269 West 38th street.

VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY.

The fifth regular meeting of the Veterinary Medical Association of New Jersey was held at Van Woerts' Hotel, Long Branch, August 6, 1885.

The President, Dr. Miller, called the meeting to order at 1.30 p.m., and requested the Secretary to call the roll. The following members were in attendance :

Drs. H. W. Rowland, of Jersey City; Wm. B. Miller, of Camden; C. K. Dyer, of Mount Holly; James W. Hawk, of Newark; W. P. Humphreys, of Elizabeth; Wm. B. Haydon, of Newark; J. C. Duston, of Morristown; J. Gerth, Jr., of Newark; and Wm. Herbert Lowe, of Paterson.

The minutes of the last meeting were read and approved.

Dr. W. H. Pendry, Secretary of the New York State Veterinary Society, was present. Dr. W. Runge, of Newark, was also present as a visitor.

The Secretary received a letter from Prof. Liautard, Dean of the American Veterinary College, expressing his desire and intention to be present at the meeting, but his absence was accounted for by the pressure of duties which necessarily demanded his time on his return from his recent sojourn in Europe.

A telegram was received from Dr. Chas. T. Goentner, Secretary of the Keystone Veterinary Medical Association, expressing his inability to attend.

According to Senator Fish's advice and instructions the Certificate of Incorporation has been duly recorded at Trenton, therefore the Veterinary Medical Association, of New Jersey has become legally incorporated.

The Chair requested the Committee upon the Constitution and By-Laws to report.

Dr. Lowe, on behalf of the committee, stated that the new Constitution and By-Laws were in course of preparation, but as Dr. Gerth had been traveling in the West it had been impossible for them to meet in time to complete the same.

The reports of the Secretary and Treasurer were received.

Dr. Dustan related, at some length, his experience with Rheumatic Influenza, stating that twenty-two cases had come under his observation during the present year. Considerable discussion followed Dr. Dustan's statements, which were participated in by many of the members. Dr. Lowe spoke of two cases of so-called Rheumatic Influenza, and gave some points of differentiation.

Dr. Dyer was the next speaker, the subject being Operative Surgery, and gave his experience in removing melanotic tumors. Dr. Miller followed on the same subject.

Dr. Rowland, who has been making investigations for the Government in Texas relative to contagious disease, was asked to give an account of his investigations, but declined to do so at the present meeting.

The Secretary offered the following resignation :

LONG BRANCH, N. J., August 6th, 1885.

To the Veterinary Medical Association of New Jersey :

GENTLEMEN.—The undersigned, your Secretary, most respectfully tenders his resignation as Secretary of the Veterinary Medical Association of New Jersey. This resignation is a necessity owing to the fact that I leave New Jersey permanently to make a new home in the State of Nebraska. I exceedingly regret taking this step, but assure your honorable body that my association with your society will always be remembered with pleasure and pride.

Yours most truly,

J. GERTH, Jr.

The resignation was accepted.

The President, Dr. Miller, said that the next in order would be the election of a Secretary.

Dr. Lowe was nominated and elected unanimously.

The following resolutions were offered by the President :

Whereas, Our Secretary, Dr. Julius Gerth, Jr., has recently been appointed State Veterinary Surgeon of Nebraska, and consequently is obliged to leave us, therefore be it

Resolved, That we express our sorrow at the loss of so valuable a member of this Association, but at the same time we congratulate ourselves upon the appointment of one of our members to so responsible a position in a far distant State, and we feel assured that the authorities of the State of Nebraska will have no cause to regret their choice.

Resolved, That we tender to our esteemed friend our hearty congratulations, and hope his appointment may prove equally beneficial to both the State and the appointee.

Resolved, That we express the hope that the health of our friend may be preserved to a long life of usefulness and influence in his future field of operations.

Dr. Gerth's response, upon the adoption of the resolutions, was characterized by marked appreciation of the esteem in which he was held by his brothers of the Association, and he then offered his resignation as a member of the Association. The same was accepted, and he was immediately and unanimously elected an honorary member.

The Secretary was instructed to forward a copy of the foregoing resolutions appertaining to Dr. Gerth, to his Excellency Hon. James W. Dawes, Governor of Nebraska.

It was decided to hold the next regular meeting of the Society in Camden, the second Thursday in December.

The meeting adjourned.

WM. HERBERT LOWE, D. V. S., Sec'y.

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular monthly meeting of the Massachusetts Veterinary Association was held at 19 Boylston Place, Boston, Wednesday evening, June 3d.

In the absence of the President, Vice-President J. S. Saunders presided, and there were present Doctors Alderman, Blackwood, Bryden, Bunker, Harrison, Howard, Osgood, F. Saunders, Simmons, Skally, Winchester and Winslow.

After the reading of minutes of the previous meeting, the following business was transacted.

Inquiry being made as to progress of Committee on Charter, they reported, that owing to the close of the session of Legislature, no progress could be made at present. Some discussion taking place as to the legal points of the matter, Dr. Osgood moved that the committee be authorized to consult a lawyer. Dr. Bryden offered an amendment that Dr. Winchester be authorized to consult Attorney General Sherman. Amendment accepted and motion carried.

The committee appointed at the May meeting to prepare resolutions censuring the pursuance of the so-called "Subscription Plan" by different veterinary institutions, reported the following for the consideration of the meeting:

Whereas, We, the Massachusetts Veterinary Association, a body composed of regularly graduated veterinarians, having for its objects the elevation and advancement of the veterinary profession and the science of veterinary medicine, the encouragement of collegiate and professional feelings among the members of the profession practising in the State of Massachusetts, and

Whereas, We believe such objects are only to be attained by each member of the profession as an individual, and each organization as a body, using its every effort to that end, commending and applauding whatever advances and honors the cause, and discouraging and condemning that which dishonors it and retards progress, and

Whereas, A system of business management pursued by different veterinary institutions in this country and England and known as the "Subscription Plan," has, in the experience of our confrères, been derogatory and detrimental to the best interests of the science and profession. and

Whereas, We, the members of the Massachusetts Veterinary Association, have realized by our own experience that the said "Subscription Plan" as pursued by the management of the Harvard Veterinary Hospital in this city and State, is repeating its disgraceful history in exerting a most injurious influence upon members of the profession practising in the State of Massachusetts, is already threatening defeat to the objects of this Association, and is thereby a foe to the cause of veterinary science and the veterinary profession; be it therefore

Resolved, That we, the members of the Massachusetts Veterinary Association, in meeting assembled, do hereby as a body, express our disapproval and condemnation of the adoption and continued pursuance by the management of the Harvard Veterinary Hospital, of the said "Subscription Plan," and be it

Resolved, That it is the duty of every member of this Association to use his utmost influence to have said plan discontinued and abolished.

JOHN S. SAUNDERS, D.V.S. }	} Committee.
MADISON BUNKER, D.V.S. }	
L. H. HOWARD, D.V.S. }	

Pending action on the report of the committee, quite a discussion of the subject took place, which brought forth a very general expression of opinion. It seemed to be nearly unanimous as to the injurious effects of the subscription plan upon the profession.

Some of the gentlemen thought that the overseers of Harvard College could not be cognizant of the real state of affairs or appreciate the feelings of the members of the profession in regard to the pursuance of the subscription plan in their veterinary department, else they would not sanction it.

At the close of the discussion the report of the committee was accepted by a nearly unanimous vote.

Dr. Bryden presented the name of Charles M. Bailey, V.S., of Haverhill, Mass., which was referred to the Executive Committee.

Dr. H. L. Alderman, of East Lexington, read a paper on "Laminitis in the Horse."

He first remarked that the disease was not confined to the feet, but the whole organism is affected, and he advised that in cases of lung diseases, in heavy horses particularly, the feet be poulticed to prevent metastatic laminitis, mentioning lung troubles as a possible cause of laminitis.

He then described very clearly the course of the disease, its symptoms and different forms of treatment.

The paper was provocative of a lengthy discussion, particularly as to causes operating to produce laminitis, and the shoe best calculated to relieve the condition, some recommending the "Broad" shoe, others the "Goodenough," with different modifications, etc., etc.

At the conclusion of the discussion a unanimous vote of thanks was tendered the essayist. Dr. Bryden was appointed next essayist.

No other business being before the meeting, it adjourned.

The July meeting of the Massachusetts Veterinary Association was held at 19 Boylston Place, Wednesday evening, July 1st.

Dr. Billings presided, and there were present Doctors Blackwood, Bryden, Byrne, Howard, Peters, J. S. Saunders, Skally, Winchester and Winslow.

The first part of the evening was taken up by a discussion in regards to the duties of the Executive Committee and a report of the Committee on Charter as to legal points in connection therewith.

Dr. Winchester suggested that the August meeting be omitted, and subsequently made a motion that when this meeting adjourn it be until the first Wednesday in September, which was agreed to.

The meeting then listened to Part I of an essay on "The Horse's Foot," by Dr. Bryden, the essayist promising to carry out his original intention of a further treatment of this subject.

He first called attention to the importance of study as to conditions of the horse's foot, even from the time of its first formation during foetal life, as well as the conditions affecting its growth afterward, such as locality, climate, soil, etc.

He said we have different varieties of hoof, according to the locality in which the horse is raised and according to what its surroundings are.

He called attention to the necessity of guarding against the changes which domestication produces, and explained how an irregularly growing hoof would cause distortion and unsymmetrical development of all tissues above, producing spavin, ringbones, bent hocks, dimpled hips, tail drawn to one side, etc., thus affecting not only the action, but shape as well, of the animal.

At the conclusion of his remarks, a vote of thanks was tendered the essayist, and he was asked to favor us at a later day with his further treatment of the subject.

Dr. Peters was appointed essayist for the September meeting, and the company adjourned.

L. H. HOWARD, *Secretary*.

NEWS AND SUNDRIES.

VETERINARIAN WANTED.—A correspondent writes that Wellsboro, Pa., is a good place for a regular veterinarian to start practice. The town is quite large, numerous animals are kept, and at present are said to be left without medical attendants when needed. Apply to T. E. Lyon, Wellsboro, Pa.

NEW MEMBERS OF THE PROFESSION.—The *Veterinary Journal* of August brings the news of the graduation of W. Folsetter, of Evansville, Ind., and E. Crundall, of New York State, at the examination of the Royal College of Veterinary Surgeons.

THE NEBRASKA QUARANTINE.—The State of Nebraska has now got a live stock commission and a State Veterinarian, and the Governor, on the recommendation of the commission, has issued a proclamation declaring quarantine against all cattle from the States of Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, West Virginia, Ohio, Illinois, Kentucky, Missouri and the District of Columbia, unless such cattle have been quarantined at the point of entry into the State for a period of ten days, and retained there till they shall have a certificate of health signed by the State Veterinarian. All cattle coming into the State from the above named States are required to enter the State at Omaha, Plattsmouth, Blair or Falls City.

It seems to us that the quarantine declared is more sweeping than present facts would warrant. It may be only a matter of prudence that cattle coming into the State from localities where

pleuro-pneumonia is known to have existed should be examined by and receive a certificate of health from the State Veterinarian; but a ten days' quarantine is wholly valueless, so far as this disease is concerned, and the detention of cattle on the borders of the State for that length of time will only serve as an annoyance and expense to the owners, without serving any useful purpose in protecting the cattle owners of the State.

Nothing short of a three-months quarantine is at all effective against the introduction of pleuro-pneumonia, and experience has shown that the disease may remain latent in the system for a longer period and then develop actively. A large portion of all the territory in the States named is free from the least suspicion of pleuro-pneumonia, which makes the sweeping terms of the proclamation appear unreasonable.—*Farmers' Review*.

PASTEUR'S METHOD COMMENDED BY A BELGIAN COMMISSION.—The commission appointed by the Belgian government to experiment on Pasteur's method of protecting cattle and sheep from anthrax by inoculation with the attenuated virus have published their report. They find, from very numerous vaccinations which have been performed at Hervé since the spring of 1883, on farms where anthrax breaks out every year, that Pasteur's method preserves both sheep and cattle from the disease. No case of anthrax has been observed among a thousand fully-grown cattle which have been vaccinated, while the non-vaccinated have died, as usual. As regards the duration of the protective influence, it has been found to be one year for young animals in the proportion of ninety per cent, and at least two years for all mature animals. They confirm Mr. Pasteur's statement that places where animals which have died of anthrax have been buried are dangerous, the soil retaining the germs.—*Science*.

ASSISTANT STATE VETERINARIANS (ILLINOIS).—The third section of the recently enacted law in relation to the suppression and prevention of the spread of contagious and infectious diseases among domestic animals, provides that, in the event of the inability of the State Veterinarian to perform all the work which he may be directed to do by the Board of Live-Stock Commissioners, he

may by and with the advice and consent of said board, appoint necessary assistants. In conformity therewith, Dr. N. H. Paaren, State Veterinarian, has, with the consent of the Board of Live-Stock Commissioners, appointed the following veterinary surgeons his assistants, namely: Dr. L. C. Tiffany, of Jacksonville; Dr. W. L. Williams, of Bloomington, and Dr. A. H. Baker, of Chicago. It is the intention to appoint such assistants in various parts of the State, from among the most competent and experienced veterinarians obtainable. They will act under instructions from the State Veterinarian.—*Prairie Farmer*.

EXCHANGES, ETC., RECEIVED.

FOREIGN.—Veterinarian, Veterinary Journal, Annales de Medecine Veterinaire, Clinica Veterinaria, Recueil de Medecine Veterinaire, Presse Veterinaire, Echo Veterinaire, Gazette Medicale, Revue d'Hygiene, Revue fur Theirhielkunde und Thierzucht, Journal Zootechnie.

HOME.—American Farmer, Country Gentleman, Iowa Farmer, Ohio Farmer, Practical Farmer, Druggist Circular, Home Farm, National Live Stock Journal, Spirit of the Times, Turf, Field and Farm, Maine Farmer, American Agriculturist, College and Clinical Record, Prairie Farmer, Medical Record, Medical Herald, Farmers' Review, Breeders' Gazette.

NEWSPAPERS.—Toronto Advertiser, North Carolina Farmer, National Stockman Gazette, Empire State Agriculturist, Breeders' Monthly, Farmers' Home, Kansas Patron, Kansas Agriculturist, Rural Californian, Farm Implement, Spirit of the Turf, Poultry Keepers' Guide, U. S. Dairyman Journal, State Granger News, Bee Keepers' Guide, Home Journal, Farmers' Friend, Photographic Times, Western Rural, Northwestern Tourist, Indiana Farmer, Our Country Home, Northampton Democrat, Therapeutic Gazette, N. Y. Weekly Times, News and Weekly Journal, Commercial News, Howard's Dairyman, Indiana Medical Journal, The Advance, American Cattle Breeder, Albany Express, The News and Currier of Charleston, S. C., The National Stockman, Health and Home, Journal of Accidents, Our Dumb Animals, Kansas City Journal, St. Louis Critic, Chenoa Gazette, The Polyclinic, The Rural Home, The Canadian Breeder, Massachusetts Agriculturist, Drovers' Journal, Arkansas Gazette, Wallace Monthly, Farm and Garden Home, Eastern Medical Journal, Western Reporter, Sheep Breeders' Gazette, American Poultry, Philadelphia Times, Farmers' Friend, Farm and Fireside, The Medical Chronicle, The Pilot, New England Farmer, Home Circle, American

Traveller, Croley's Weekly Husbandman, Rural Messenger, Farmer and Mechanic, American Sheep Breeders' Journal, The Indianapolis Times, Knight of Honor Observer, New Haven Journal, The Boston Times.

CATALOGUES, ETC.—New York College Veterinary Surgeon, New York University Medical College, Rush Medical College, Chicago, 64th Annual Report Mercantile Library, 7th Annual Report State Board of Health, Register Franklin and Marshall College, Annual Report Department of Health, Brooklyn, The Annual Commencement College of Physicians and Surgeons, Baltimore, Md., Memphis Medical College Catalogue, 16th Report Board Agriculture of New Hampshire College, 68th Annual Report of the Asylum for the Relief of Persons Deprived of the Use of their Reason, Annual Report of Memphis Board of Health, Annual Report of New York Cancer Hospital, Catalogue of University of Pennsylvania, Report of the Department of Agriculture, Statistics and Health of Province of Manitoba, Annual Catalogue of Michigan Agricultural College, Humboldt Library, Animal Automatism.

AMERICAN VETERINARY REVIEW,

OCTOBER, 1885.

EDITORIAL.

"AMERICAN VETERINARY REVIEW" PRIZE.

After listening to the usual report of the Committee on Prizes at the last meeting of the United States Veterinary Medical Association—"no paper; no prize; no report"—the editor of the REVIEW addressed the meeting in a strain which proved very interesting to his audience, and will, no doubt, lead to results not a little interesting in the future to some certain parties at present unknown.

The speaker announced his intention to add to the prize already established by the association, another, to consist of a gold medal of the value of fifty dollars, for the ablest essay or paper on any subject connected with veterinary medicine, and that at the next annual meeting the members will be invited to determine by ballot the authorship of the successful paper. The vote will not, in any respect, be one of personal preference, the authorship continuing unknown until after the decision has been reached. *Each essay will be sent to the editor and published in the REVIEW; will be identified by a motto selected by the author, and the author's name will be inscribed on a card which is to be enclosed in a sealed envelope, on the outside of which the motto will appear in duplicate, the name thus waiting to be revealed until the irrevocable decision has been reached.*

In the hope that the association would kindly accept the offer, the REVIEW would suggest, also, that the competition be not restricted to members of the association, but be extended *to every member of the profession*, in and out of the association, subscriber or non-subscriber of the REVIEW.

It is with gratified pride that we call the attention of our readers to the kindness of the association in promptly accepting our offer. Let it be understood—and we wish that our motives may be truly appreciated—that in taking this step we have no other intention than to encourage our younger members of the profession, and to stimulate their energy and develop their resources in a field of labor perhaps too little cultivated by them, while, at the same time, we offer them an opportunity to win a prize whose value will not be lessened or ignored when it will be remembered that it is not a *gift* from a party of partial friends, but the reward and result of patient and successful labor in their chosen calling, adjudged to have been fairly won by the suffrages of a body of men who represent a majority of the approved and established veterinary practitioners of the country.

THE UNITED STATES VETERINARY MEDICAL ASSOCIATION.

The twenty-third anniversary meeting of this body of veterinarians was held at the American Veterinary College building, pursuant to notice given in our last issue. Whether it was a great success may be a question difficult to answer. It is true the attendance was quite large; that a number of delegates from various State societies were present; that a good many new members were admitted; and that a very harmonious and friendly feeling prevailed throughout the day and until late in the evening. But after all this has been said this meeting, held on the 15th of September, 1885, was just like preceding meetings. A great deal of valuable time was spent in comparatively unimportant discussions and trivial items of business, and there was a want of reports from the various committees, which must be charged to a lack of interest, or to the neglect in the performance of the duties of those who had charge of them. Some

brief interesting remarks were made on the histology of the lesions of various pneumonias, and there was a very beautiful exhibition of microscopical objects, and of pathological specimens, etc. Some few needful matters of business, with these, constituted the entire work of the whole day's session.

INTERNATIONAL MEDICAL CONGRESS.

Probably few of our veterinarians are aware of the trouble which exists in relation to the International Medical Congress which our friends of the sister profession have been discussing for some months back. And probably, also, our medical brethren care but little whether we veterinarians take any interest in the matter or not. Still, we are bound to do it, and why? Not because we attach importance to its selection of a place of meeting, whether in this city or another; whether in this State or in that one, but for simply this reason: What will the Congress do with the veterinarians who are likely to be present either directly as members or as delegates? We know positively that Europe is to be well represented. By personal and private information we have learned that French and English, and perhaps German veterinarians are to be present. Will they be admitted? To us American veterinarians admission has been refused in medical societies, at least as members, on the ground that we were "veterinary," and not "human," practitioners. Shall our European confreres be ignored on this ground, or shall they be received? If to be ignored, they ought to know it at once, if for nothing else to save the trouble and expense of a trip across the ocean. If they are to be recognized, what of veterinarians on this side of the ocean?

This seems to be a difficulty upon which we would like to have some light. In either case our European friends will, no doubt, receive from us a good and deserving welcome; but is our recognition by our medical brethren, and our admission to their societies and congresses, to be forced upon them by the friendly visits of delegates from Europe belonging to the veterinary profession? "To be or not to be," that is the question.

NEW EMPIRIC NURSERIES.

A new era seems to have dawned in the history of American veterinary science, or, probably, not entirely a new era, but rather a new "boom" seems to have started in the establishment of veterinary departments in universities and agricultural colleges. Not less than three new chairs of veterinary science have recently been established in Ohio, Missouri, and Michigan.

While we shall always be glad to see any new ideas inaugurated which seem likely to promote the advancement of veterinary science, we fear that the creation of the professorship of veterinary science is now too much on the increase, and that, instead of doing a good work, the result of these appointments will mean the revival of an element which all lovers of the profession have been trying to put down, and that is—*quackery*.

Our American people are prompt to believe that they can learn everything and do it in shorter time than any other people in the world, and this is emphatically the case when it relates to veterinary medicine or the care of our animals. Where is the dean of any of our veterinary colleges who has not received many letters from parties who "*knew it all, and merely wanted to polish off and get a diploma in the shortest time possible.*" What, then, is likely to be the result of this half-and-half veterinary education? We regret that in the newly appointed departments the names of such good men as those given should have lent themselves to encourage such an error. One man appointed to fill up all the departments of veterinary medicine, commits, we believe, a great wrong to himself and to his profession. It is not our desire to say that agricultural colleges or universities ought not to have veterinary departments attached to their curriculum. Far from us be such an idea, for there are in our profession many links uniting us to the agricultural interest, and those links the veterinarian alone is able to teach them. But this is all the professor of veterinary science of an agricultural school ought to do. If he goes beyond that, if he intends to give a *thorough veterinary* education by himself alone, he certainly undertakes a labor that no one man is able to perform.

SANITARY MEASURES.

The fight against the invasion of contagious diseases is slowly organizing in the West. The enactment of laws by some of the Western States and Territories, with the appointment of official State and Territorial veterinarians, illustrate the importance that is attached by the people to the protection of their domestic animals from animal scourges. The proclamations and the rules and regulations lately issued in Illinois and Wyoming, and which we publish to-day, will be found interesting reading, showing, as they do, the importance which is attached to that very first step in sanitary medicine, viz., the "declaration." Probably it was not very necessary to have this brought to the attention of the State veterinarian and his assistants by a set of rules established through a Live Stock Commission, as the veterinarian ought fully to appreciate and know that this is his first duty to the people of the State. But, after all, in our land, and so long as this sanitary service is in its infancy, it is better that the imposition of this declaration should be enforced, if only to brace up the courage of those who may from personal feeling be induced to neglect it. But there is also another important step in this action ; it is making it obligatory upon the owners of animals to comply with the laws, and to give the veterinarian all the opportunities he needs in order to make his investigation successfully useful.

With the new action which is to be taken against pleuro-pneumonia must be considered that of the cattlemen of Kentucky, who propose to raise money and establish a fund with which all affected and contaminated animals are to be bought to be destroyed. If this action is effectively carried out and followed up by the proper vigilance against possible new outbreaks or new importations, this single-handed action of Kentucky may prove satisfactory, just as, years ago, it proved to be in Massachusetts. And so long as the General Government at Washington seems to be willing to limit its action merely to investigations and nothing else, the action of the State of Kentucky is to be commended as a good precedent, and probably the only mode by which she can protect and save her live stock. This is not, however, sufficient.

The liberality with which this fund is going to be subscribed, as it seems at least, calls for a *sure, certain* and *proper* use of the money subscribed; and it is to be hoped that the examination of the stock will be committed to the hands of an educated veterinarian, *thoroughly acquainted with the diseases*, and a *good diagnostician*, whether he be already an official inspector or not.

As we go to press, however, the following information reaches us:

“The Kentucky stockmen have failed in their efforts to raise a fund to buy and kill cattle exposed to pleuro-pneumonia, only \$3,000 of the desired \$9,000 having been subscribed.”—*National Live Stock Journal*.

ARMY VETERINARIANS.

At the meeting of the United States Veterinary Medical Association a petition was read, which, it was understood, was to be presented to the Adjutant-General in Washington, which laid before him the peculiar position of the army veterinary surgeon, and called his attention to the right they claim of better professional recognition, and suggested the propriety of organizing a special army veterinary department.

These changes which are asked for by our army colleagues have been already insisted upon by us on several occasions, and our readers will remember the series of articles which we published several years ago on this subject.

We were asked to present the petition to the association, and to ask their assistance. We are now pleased to inform our brethren in the army that the subject has received the full sanction of the meeting, and that a committee will be appointed to communicate with the proper authorities upon the subject.

PHILADELPHIA VETERINARY SCHOOL AND HOSPITAL.

It is with pleasure that we notice the second step of the University of Pennsylvania towards establishing a veterinary school or department. The news comes to us, *only through an exchange* (we regret to say), that the new buildings were opened on the 1st

of September. Those consist of a stable, or hospital, where forty patients may be accommodated. With the facilities it already possesses, with the capital it has in its treasury and with the unequalled name at its back of the University of Pennsylvania, we can predict, and most sincerely wish, for the new school all the success it deserves.

ORIGINAL ARTICLES.

DISEASES OF THE HEART IN DOMESTIC ANIMALS, ESPECIALLY THE HORSE.

BY FR. BLAZEKOVIC.

(*Translated by J. C. Meyer, Sr., V.S.*)

Continued from page 213.

II. ÆTIOLOGY OF HEART DISEASE.

Diseases of the heart occur more frequently among domestic animals than has been generally supposed. The comparatively difficult diagnosis of the diseases of the heart causes such to be overlooked during life, and often confounded with lung diseases. The earlier schools, which were not acquainted with the methods of physical examination, transgressed particularly in this respect, and, therefore, could not become familiar with the diseases of the heart. But if heart diseases be more frequent than has been heretofore known, it may be assumed that also the causes which give rise to such diseases often has an effect upon the organism. Domestic animals which are compelled to work are specially subjected to these affections. The greatest number of heart diseases is noticed among horses and draft cattle; the smallest among sheep and swine. Canines, however, show a particular disposition to heart disease.

Roell asserts correctly that very little is known about the development of the available movements and the setting in of the principal active causes. Nevertheless, after close examination of the interior as well as the exterior active movements of the organism which chiefly influence the circulation and action of the heart,

sufficient fulcrums can be found enabling us to explain the development of such affections.

Following up such movements, we shall in the first place come to the conclusion that the mechanism of the heart itself can deviate from the normal in different ways. In literature not a few such cases are known, and how much more frequent are those which occur in practice and are not published. This is also true of the innate anomalies at the origin and the division of the vessels. Such deviations from the normal are as a result a positive embryo of chronic heart disease. According to the numerous examinations [of Prof. M. Goubaux, of Alfort, anomalies are not at all rare in the division of the carotids.

The innate abnormalities of single parts of the heart and valves are genetic for the observation of heart diseases. Another matter of consequence is, that certain species of animals have a greater disposition to heart disease than others. Its frequency among dogs needs only to be remembered. Besides, it is a fact that thoroughbreds suffer more frequently with heart diseases than those of the common type. This may depend upon the manner of use made of such animals, for the excessive, especially the too violent and forcible, action of the heart must be the cause of the disease in thoroughbreds. Heart affections will be oftener noticed among noble breeds and trotters than among draught horses. Especially is it true of such half-breeds, which do not possess the qualities of thoroughbreds, and of which the performances of the latter are irrationally demanded. In a hundred cases of pulmonary emphysema forty per cent. is undoubtedly caused by affections of the heart. Great exertion often produces inflammation and rupture of the heart.

The influence of the nervous system, which is of vast importance for the generation of heart diseases in human beings, must not be overlooked in animals. Such a case has come under my observation. The stallion "Vöreze" fell down dead during the act of copulation. The post-mortem examination disclosed a rupture of the heart. According to my observation, male animals are more susceptible to heart disease than females. Moreover, draught horses suffer oftener with heart affections than brood

mares. I have even found that established defects of the valves improved after two years life of breeding; while the brood mare as a draught horse would surely have died. Among young horses which are being trained and broken, heart diseases occur proportionally more frequently than among older horses which have been in service. Nervously excited, timid animals have a particular predisposition to the disease.

Heart diseases are also often directly or indirectly caused and determined by previous or still existing changes of other organs. Such pathological changes of other organs, which only exist in consequence of heart affections, are not to be confounded with the above named. Often the most efficient diagnosticians consider such changes the cause, whilst they are merely the results of heart diseases; but in many cases a definite limit between cause and effect is not possible.

Affections of the heart are occasioned by the lateral pressure of the neighboring parts, by aggravated circulation, in the calling forth of the more violent heart affections, by swellings in the abdominal and thoracic cavities, by new formations from without or within. Here the influence of the aneurismatic pouches at the pulmonary artery and other vessels deserves particular attention. Changes and degeneration in the spleen and liver exercise a pressure upon the vessels of these organs, and consequently generate disturbances of the heart and circulation. The coagulation in the vessels is important for the ætiology of heart diseases; for as soon as the coagulation exists in greater dimensions disturbances in the circulation arise, which, after continuance, have, as a result, chronic heart disease.

Mechanical influences from without, such as too tight buckling on of the harness, a strong pressure of the girdle, exaggerated checking of young training horses, frequently produces sudden heart affections, and if the causes continue they become plastic. The effort a young horse in training makes to free himself from the harness which embraces his body, is often amazing. And the irrational trainer considers these exertions due to ill-temper, while they are nothing more than an impulse of self-preservation on the part of the animal, which, breathing heavily and

anxiously, is disturbed in his whole circulation, and is on the verge of fainting and rupturing vessels. If the heart beats of such an animal be examined, its action would be startling. How many a good horse has fallen a victim to such irrational training !

The course of constitutional diseases and epizootics have partly incidental and partly characteristic heart diseases as a result. These are either by means of some toxical influence, or without it, the cause of heart diseases, which take a conspicuous part in *casus-morbi*, or after recovering from primary ailments more or less important forms of affection remain, which reduces the animal into a chronic decline.

Such cases, especially as accompanying symptoms of anthrax, hemorrhage, typhus, influenza, hæmorrhagic diathesis, pyæmia, hæmoglobinuria, etc., are known to every practitioner. Occasionally in inflammation of lungs, diaphragm and intestines, heart affections can be noticed.

The influence of dynamical powers, such as currents of air, atmospheric pressure, sudden changes of temperature, wind, rain, heat, etc., in short all those influences which produce diseases caused by taking cold, are not to be undervalued in the development of heart affections.

The heart is, furthermore, exposed to manifold mechanical insults, trauma, and injuries from without. Sufficient cases in literature are known wherein wounding of the heart and pericardium from without were caused by foreign bodies from the stomach, such as swallowed nails, needles, and metallic pieces. Frequently concussions and direct injuries of the heart are produced by pressure, shocks and collisions.

The influence of temperature, not so much upon the generation as upon the intensity and abatement of already existing heart affection, is generally known; however, I will return to this at another place. The examination of the different parts of the organs of the heart is absolutely necessary for the development of the genesis of heart disease. Every part of such organ is exposed to these affections according to the significance of its tissue for the organism which predisposes it for the reception of particular causes. Derangement of single parts of the heart is

very often followed by disorder of other parts, and therewith acts directly as a predisposing and exciting cause. For instance, the acute affections of the endocardium pass over to the pericardium, and the reverse. Diseased condition of the serous membranes have likewise changes of the muscles to fleshy parts of the heart as a result. Infiltrations and curvatures of the valves of the heart produce an enlargement of the cavity, incrassation or attenuations of the walls of the heart, etc.

According to the age of the animal, nothing can be inferred with certainty. At all ages heart affections can occur; still, these affections, according to my observations, as before mentioned, seem to occur more frequently among young animals than among older ones. Forage and attendance have great influence upon the origin of heart disease; especially is this true of the nobler breeds and stock which are kept in good condition. Fatty degeneration, new formation of fatty tissue already in the normal state, will, while an animal is subjected to great exertion, or in the beginning of training, especially if it is forced, give rise to disturbances in the heart functions, which, if they continue, develop into acute or chronic diseases.

(To be continued.)

INFLUENZA AND THE INFECTIOUS DISEASES OF THE HORSE.

BY PROF. DIECKERHOFF.

Though immense progress has undoubtedly been made within the last three years in the differential diagnosis of the various contagious diseases of the horse, which have been grouped for a century past in veterinary medicine under the general designation of influenza, our knowledge of the specific nature of each is still incomplete, and it cannot be perfected until we shall have enjoyed the benefit of new and more exact observations. We shall probably be obliged to wait very long for the discovery of the various micro-organisms by which they are generated, and the consequent preparation of successive cultures of the appropriate microbes. The inoculation of healthy horses by these will then easily determine the varieties of the disease or diseases in

question. This point has not yet been reached, and until it has been realized by our zealous experimentalists, we must continue to depend upon the process of clinical observations for additions to our intelligence.

Prof. Dieckerhoff says: "influenza" ought not to be used to designate one single disease of the horse, because its signification would then be too limited, and its restriction alone would convict many practitioners of error, who to-day are in the habit of giving that name to a series of infectious diseases. Friedberger and Siedamgrotski propose to designate under the name of influenza, the pferdestaupe (benign typhoid fever.) Friedberger again, calls "influenza pneumonia"—the pferdestaupe complicated with pneumonia; an excessively rare occurrence; while Lustig reserves the same names (influenza-pneumonia) to a form of brustseuche, (typhoid fever complicated with serious diseases of the chest.)

These vague expressions give rise to the greatest confusion and should be utterly abolished, together with another proposition of Dieckerhoff, who in past days proposed to reserve the word influenza for all infectious diseases of the horse, adding for each variety the proper specific and distinguishing term. In the general interest of science, in order to conciliate the opinions of all, it becomes necessary to distinguish these affections, in the study of the causes and symptoms special to each. The word influenza will therefore be considered merely in a sense historical and general, and will apply to all the infectious diseases of the horse. Each one, however, will receive a special name. And, moreover, we shall never apply the term to affections of the epizootic and enzootic character.

CROUPAL OR FIBRINOUS PNEUMONIA OF THE HORSE, COMPARED TO BRUSTSEUCHE.

Typhoid fever complicated with severe pneumonia.—In the group of diseases called "influenza," must first be classed two principal ones, pferdestaupe and brustseuche, whose course and differential symptoms are at the present time quite well known. If some practitioners do not agree upon the diagnosis of these two affections, it must be remembered that in medicine even the

theories which seem most clearly defined and plausible, always present more or less obscure and debatable points.

Brustseuche seems to have some analogy with the croupal pneumonia of the human subject. On this point Furgensen says: "The portion of the pleura corresponding to the inflamed segment of the lung is always altered. The injection of the blood vessels is first discovered in small sub-pleural ecchymoses; the serous surface becoming the seat of the trouble, thickening and becoming covered with false membranes, while effusion takes place in the chest. Thus, first localized in the pulmonary pleura, the inflammation spreads subsequently to the costal."

Fraentzel adds: "The fibrinous pneumonia of man is always accompanied with pleurisy, even when the lesions of the lungs do not come in contact with the pleura, and these are ordinarily more affected in the costal than in the pulmonary region."

The result is that pneumonia is often only secondary, while pleurisy is the principal disease and may lead to death. The same observations may be made in Brustseuche and in one of the other diseases. It must be acknowledged that the same causes, viz.: the same infectious germs, may give rise to both the pulmonary and costal lesions.

The etiology of acute diseases, with a typical and regular course, of the organs contained in the chest is yet quite obscure. Siedamgrotsky has described:

1st. Croupal pneumonia (lobar); 2d. Pleuresy (rheumatismal); 3d. Pleuro-pneumonia (infectious pneumonia); 4th. Brustsenche, or contagious pleuro-pneumonia.

This classification is based either upon the seat, the extent of the inflammatory groups of the diseased organs, or the degree of contagiousness of the affections. Without ignoring the practical importance it may possess from the point of view of the diagnosis of Brustsenche, it must be acknowledged that it is difficult to discern the difference that exists between the four divisions.

The pneumonia that Siedamgrotsky and Roell have named *croupal* is not a sporadic disease affecting horses after exposure. It is, on the contrary, an infectious disease, with a typical and regular course, transmissible from one to all the occupants of a

stable, without reference to the originating cause from which it sprung. For twenty-five years prior to 1884 Dickerhoff had observed that the disease prevailed principally in cold and stormy weather, and that within the space of two weeks it made its appearance in a large number of stables, more or less populated, of the town or suburbs of Berlin. In none of those epizootics has the origin of the infectious germ ever been discovered. The same disease often exists in other countries under the influence of north and east winds, in the stables of horse dealers, but the infection has in all cases been traced to other localities from which it had been conveyed.

Pleurisy (rheumatismal) of Siedamgrotsky is also, according to that author, produced by exposure, and principally upon young horses which have traveled in rail cars. This form of pleurisy seems to differ from that which is found in the post-mortem of horses which have died from *brustseuche* towards the tenth day. At this period of the disease there are no further traces of pneumonia, the only lesions being those of simple or double pleurisy.

Pleuro pneumonia (infectious pneumonia) of Siedamgrotsky includes several affections of the essential organs of respiration, and is due to various causes, such as foul stable, miasmas, etc.

The word *Brustseuche* seems well selected as a designation of contagious pleuro-pneumonia in the horse, since it specifies the inflammatory group of the lung as that of the pleura. It applies also to croupal pneumonia, though Friedberger seems ready to recognize in it a peculiar character and a special contagiousness. But, from the symptoms and lesions sometimes described, it seems but just to believe that he has not always met with the true croupal pneumonia. The contagion of *brustseuche* may take place directly from the sick to the healthy, and the infectious germ may retain its virulency for a longer or shorter period outside of the organism. Still it is not rare to see healthy animals continue to be located with diseased subjects without being contaminated. This anomaly is well known in pathology.

But though it must be admitted that croupal pneumonia is contagious only in peculiar instances, it must be conceded, nevertheless, that the contagiousness does exist. Distemper (*gourmes*)

often follows exposure to cold, upon a first subject, and then by contagion extends to a portion or to all the animals of the same stable. The case is similar with brustseuche and croupal pneumonia. In aiming to establish the similarity of these two last named diseases, Dickerhoff and Dr. Mendelsohn preserved the serosity from the lungs of six horses which had died with brustseuche, and in two they found micrococci similar to those which had been found in the lungs of a man who had died with croupal pneumonia (de infectiose natur der pneum. Zeitsch. fur Klin. Med. vii.). Both of these subjects had been suffering with simple pneumonia and dry pleurisy.

Brustseuche may assume the form of pneumonia, of pleurisy, or of pleuro-pneumonia, and under each form may last for a period averaging from seven to eight days—a period during which the virulency has become more or less established. But this is a specification which is without practical importance, inasmuch as it cannot be accurately determined until after death.

Brustseuche seems to have some analogy with bovine pleuro-pneumonia, similar microscopic lesions being often found in both diseases; and as each may present itself as pneumonia, resembling croupal pneumonia, and as exudative pleurisy. These two forms of peripneumonia had already been observed, and it was then held that an animal might contract either dry or moist peripneumonia, according to the dryness or the moisture of the food he might have eaten.

In these two diseases, again, hemorrhagic infarctuses are found in the lung, whose conditions varies both with individuals and species. For instance, in the horse, whose tissues are generally finer and more easily decomposed, these small infarctus soon become so many purulent centres.

To resume, all the conditions referred to seem to establish that there is a strong analogy of brustseuche and peripneumonia. Each may assume the form of pneumonia (croupal) and of pleuro-pneumonia—two new diseases which, though different, from an anatomical point of view, yet owe their origin to the same infectious germs.

(To be continued.)

REPORTS TO THE COMMITTEE ON DISEASES OF THE UNITED STATES VETERINARY MEDICAL ASSOCIATION.

BY JAMES D. HOPKINS, D.V.S., Territorial Veterinarian, J. C. MEYER, JR., M.D., D.V.S., Cincinnati, Ohio, and B. McINNES, JR., V.S., Charleston, S.C.

DEAR SIR.—Your letter of the 10th is at hand. I sincerely regret that official duties prevent my attendance at the annual meeting of the Association. Therefore you will do me the favor to express my best wishes to the members present. Also my appreciation of the objects of the Association, and the hope that every gentleman present may be benefited by the intelligent discussion of the many diseases which afflict our domestic animals.

This subject has proved a very interesting one, and occupied a prominent place in the discussions of agricultural and stock-growing circles throughout the country. The application of sanitary science, as applied to the prevention of disease among domestic animals, has made an immense advance in this country within the last five years; and this advance is due to the spread among the people of sound scientific knowledge of disease and the means of its prevention, through the untiring efforts of those gentlemen who, years ago, established, in the face of much opposition and discouragement, veterinary colleges, where it was made possible for worthy youths to obtain a thorough training in this branch of medical science.

These young men, trained in sanitary science, have located in different parts of our country. At first they met with great difficulty in overcoming the prejudices and preconceived notions of stock-growers as to the different ailments afflicting domestic animals. They have also met the opposition of the ignorant charlatans, who, having assumed the title of veterinary surgeon, preyed on a credulous public, and by their utter disregard of respectability and integrity, brought the honorable title they had appropriated into contempt.

The spread of contagious pleuro-pneumonia among the cattle of the Western States during the past two years, and Texas fever last year, has shown to the people the necessity of sanitary laws

for their prevention, and the demands of the people have been met by the Legislatures of many States enacting sanitary laws creating veterinary bureaus, with competent veterinarians in charge, with full authority for the investigation and control of all outbreaks of disease among the domestic animals, and to give to the people a practical knowledge necessary to cure or prevention.

The grave danger to the stock-growing industry from an invasion of contagious pleuro-pneumonia was presented to Congress at its last session and resulted in the passage of an act creating the "Bureau of Animal Industry." The functions of this bureau are to investigate and collect statistics as to the number of cattle in the United States, the manner in which they are handled (whether on farms or ranges), number of beeves marketed annually, cost of transportation from different points; diseases, the manner of their spread, mortality, etc., all of which will be laid before the next Congress for suitable legislation.

The printed reports of this bureau have been of great benefit to the whole industry, by giving to them official information of infected localities, thereby enabling the buyer to make his purchases with confidence in places not infected.

My opinion is, and the proof is abundant, that State sanitary laws are a necessity to the welfare of a State, and fully competent to stamp out contagion or prevent its entrance when properly enforced; *and while the state, county, or municipal laws are in force Congress cannot* enact any law giving a federal officer authority to enter any person's barn-yard, or to examine his stock, or, in the event of contagious disease, to stamp it out by slaughter or quarantine of the cattle.

During the past three years I have resided in Wyoming Territory, and I have been called on to examine into many outbursts of disease among cattle. Formerly all cattle were branded and turned loose on the range. Owing to the wide extent of this country, these cattle were seen only at the annual "round-up." No sick ones were noticed; but now many men of small means have fenced a few sections of land and attempted to raise cattle. The nucleus of their stock is imported from the States, where they

have been bred to shelter and hay-stacks. These cattle are turned into the enclosed ranches, with no other shelter than wire fence and partially fed on hay or left to "rustle." In this country there is forty degrees difference between noon and midnight in summer. In consequence of these hardships, many outbreaks of disease developed, and were it not for the investigation of the sanitary authorities the industry would have been ruined by the rumors of mortality among such cattle. I am glad to say that the people begin to properly appreciate the necessity of more intelligent management in this matter.

The diseases most common in this class of cattle are pneumonia, pleurisy, hydro-thorax, enteritis, tuberculosis and abortion. Among horses glanders prevails. During the past year I have condemned and had destroyed under the laws 62 horses and mules.

Black-leg in calves and braxy in sheep was the cause of considerable mortality two years ago. But more judicious feeding and care has checked the disease. Two outbreaks of verminous bronchitis occurred last year, due to the importation of calves from Iowa; a proper quarantine of the pastures prevented its recurrence. Owing to the great extent of this territory, I am unable to give statistics as to the numbers affected or the mortality, as I seldom make over one visit to a locality, and the owners rarely know of their own losses.

Last year, through the importation of cattle from Texas by railroad into Nebraska and Colorado, over 5,000 native cattle on the range died of Texas fever. Hog cholera invaded the eastern part of Nebraska last August (1884), and over \$1,000,000 worth of swine died. As many of the farmers of that region depended on their swine crop to meet outstanding engagements, its failure has caused much financial distress.

During the past spring and summer I have been engaged in the maintenance of a rigid quarantine against cattle imported from the Western States into this Territory. Cattle from east of the Missouri river, to enter this Territory without quarantine, must present proof of having been held four months on one farm, and that no cattle had been added to the herd during that period, and that no contagious disease has existed in the herd or vicinity.

There is no doubt but that the quarantine regulations of the different States and Territories interfere with the cattle trade. But the great plains teeming with cattle must be protected.

It is to be hoped that before another season comes the sanitary authorities of the different States will meet and settle upon regulations, just to all, that will protect the whole industry from contagion, with the least disturbance to traffic. And I would most respectfully suggest that a committee of this Association should be appointed to represent this Association at such meeting of sanitary officers. Also to lay before Congress and the different State Legislatures the best manner in which to suppress contagious pleuro-pneumonia, Texas fever and hog cholera.

It is proper that at this time this Association should take an active part in shaping legislation for the control of contagious diseases of domestic animals; and that this Association should show to the world that it is entitled to the recognition it deserves for its learning and ability. I know that men educated in the same school will sometimes differ on the same intricate question, as in law or theology; but in the matter of contagion—how to stamp it out, or control it—among veterinarians, I cannot imagine but, that on discussion of the subject, all will agree as to the measures to be adopted. Therefore, I think that a committee from this Association would be able to accomplish much good for the *profession*, instead of allowing a few veterinarians to represent *themselves* in legislative halls to the detriment of the whole craft.

Respectfully submitted,

JAS. D. HOPKINS.

In compliance with your request, I beg to submit the following report on disease :

Since our last annual meeting my attention has been chiefly directed to the unusual frequency of glanders, anthrax and influenzas, having an appearance of contagiousness.

Glanders was very conspicuous during the course of the past twelve months, and if measures be not immediately taken to exterminate the disease, it will be difficult to eradicate it.

The State of Ohio has a law prohibiting the sale of animals so diseased. It makes the owner of such an animal liable for all damages that might arise by the diseased animal coming in contact with the healthy horses. This is the extent of the law, but it does not prevent the spread of the disease. As long as the law does not make it a criminal offense for a man to own a glandered horse, and does not give the veterinarian power to destroy the diseased animal, and at the same time afford him the necessary protection, it will be impossible to arrest its progress.

During the year, the following cases of glanders have come under my observation :

1884. September, 1; October, 2.

1885. February, 2; May, 3; June, 1; July, 8—(5 Shetland ponies, 2 colts, 1 mule;) August, 9—(8 in one stable, 1 in another.)

With the exception of three, all of these cases were destroyed.

I have examined a number of suspicious cases, and look forward to an important outbreak sooner or later. I have heard of numerous cases of glanders about the State, and would recommend strict measures to prevent its spread.

Anthrax has come under my observation but once during the past year, and that was last October. The disease made its appearance on a place formerly occupied by a cattle dealer. Twelve head of cattle out of twenty, and three horses, died of the disease.

Influenza has played an important role during the spring months of 1885. Important from the fact that the death rate was greater than any other year. I should judge it was about 15 per cent., and the convalescent cases made a *slow* recovery. The fatal cases usually died of a bowel complication, attended by diarrhoea, followed by paralysis of the bowels, preventing the evacuation of their contents. This state usually set in after the acute febrile state had subsided. If the eyes had been closed and weeping, they now assume a dry and staring appearance. Debility is extreme; appetite is absolutely suspended; they drink water sparingly; restlessness prevails; pulse from 60–100 per minute; temperature, which at the outset was high, 105°–106°,

is now 102° – 103° ; from the long continued abstinence from food the breath becomes foetid; the mucous membrane of the mouth looks bluish, and in some cases peels off; a dripping of water from the nose and the mouth is constant; the desire to continually rinse the mouth in water is very great.

Having mentioned the most striking symptoms of an aggravated case, I shall proceed to give the most important post-mortem lesions found. The chief alterations are found in the intestinal canal; a general inflamed state is apparent, and the lining membrane of the alimentary canal presents a bluish aspect. The canal is filled with fluid, in which floats a small quantity of solid excrement. I will state here that the lack of discharge from the bowels was not due to constipation, but to a want of activity of the bowels. This phenomenon must be carefully considered in the treatment of these cases. The thoracic cavity is in a fair state; lungs healthy; heart, pericardium filled with serum; ecchymosis of the endocardium is very striking; all other organs healthy. This form of influenza is unquestionably contagious, among green horses in particular, and among those horses that have not had that form of influenza commonly known as pink-eye on some former occasion. I have, however, been able to confine the disease to comparatively few by isolating the sick ones and by cautioning my patrons not to buy green horses, especially at auction stables, where the disease raged to an alarming extent.

Treatment.—Quinine was the chief remedy employed, given in large doses. Opiates were administered where bowel complications appeared.

Osteo porosis, with its rheumatic attendant, has been quite prevalent during the winter and spring months. It caused the destruction of a number of horses in this vicinity. This disease, however, is not contagious, and is produced by some local cause, which I am unable to point out just yet.

Besides these four diseases, none other than those which we would naturally expect to meet with during the respective seasons, has manifested itself.

Yours respectfully,

J. C. MEYER, Jr.

GENTLEMEN.—During the past year no epizootic nor enzootic attacks of disease have appeared in this city or the near surrounding except that of canine distemper, which commenced here about the early part of summer and has been very fatal. One of the most notable features about the disease was the almost entire absence of cough. The other symptoms of profuse catarrh from nose and eyes, impaired appetite and labored breathing, were always present. Cases when brought for treatment as soon as discovered sick were convalescent in about ten days; those brought after the disease had gone on for some days I could not relieve, the case usually ending in cerebro-spinal meningitis; this first appearing by a slight weakness in the hind legs, gradually moving up towards the fore limbs. Then the dog would lie down, unable to rise. Next I noticed the head paralyzed. In this condition they would lie for several days, giving expression to pain by a continuous whine, which was kept up until death. The difference I noticed between this termination and chorea was the entire absence of the twitching of the muscles. I tried setons in back of head, stimulative embrocations to spine, also cold water douches to spine; gave nux vomica, ergot, arsenic, and many other drugs with little or no effect.

In the catarrhal form I found the following prescription very good:—

R Quinine sulph.....	3 i.
Aloes bark pulv.....	3 ij.
Camph. pulv.....	3 i.
Anmon. carb.....	3 ij.

M. ft. pil. xxxii.

S.—1 pill every two hours; good nursing, with milk and beef essence; diet must be rigidly kept up.

I have had my usual number of cases of tetanus, most of them being caused by nails in the feet. I find from Sept. 1, 1884, to date, I have had twenty cases. Eleven have died; nine have recovered. Have had a few cases of rabies in dogs, both mad and dumb. I have noticed in our newspaper that hog cholera has prevailed to some extent in the country parts of South Carolina, but was not called to see any cases.

Blind staggers, I have learned from several gentlemen, has been very fatal in the counties near Charleston. This, I think, is due to turning the horses out all night and their grazing on the dewy grass early in the morning. I have not seen or heard of any contagious diseases in cattle.

A friend of mine on an island adjacent to Charleston has reported a great many of his cows dying from parturient apoplexy. Some, he says, have apparently been well in the morning and dead at night. The usual remedies have not time to act. He says he has not been turning them out at night, but been feeding them in stalls. I think he has had them too fat.

Respectfully submitted,

BENJ. MCINNIS, JR., V.S.

PHYSIOLOGICAL PATHOLOGY.

UPON CYSTITIS AND NEPHRITIS PRODUCED IN A HEALTHY ANIMAL BY THE INTRODUCTION OF THE MICROCCOCUS URINÆ INTO THE URETHRA.

BY MESSRS. LEPINE AND G. ROUX.

Half a drop of pure culture of *micrococcus urinæ* was, by means of a flamed pipette, injected into the urethra of a guinea pig, and a ligature applied and left on the prepuce for several hours. In a few days the region became more or less swollen, some slight sloughing occurred, and the urine, which had become very ammoniacal, was found to contain many micrococci and granular casts. On post-mortem the bladder was found thickened, and its mucous membrane reddened, and if the animal had been killed, the kidneys were in a congested state, but, if he had been allowed to die, (death taking place in a few days,) these organs had become yellow.

In both cases, the examination of well-colored sections has shown *micrococci* in the epithelial cells; and a piece cut from the centre of the kidney, carefully obtained, and placed in sterilized urine, had given a pure culture of *micrococcus* in urinæ.

Several *healthy* (saines) females that were kept in the cage with the inoculated males, had also ammoniacal urine, containing

casts and micrococci; they also died after a few days with the same vesical and renal lesions.

In the dog, whose concentrated and acid urine seems, *a priori*, to be a very bad medium of culture, the introduction into the urethra of a few drops of pure culture of micrococci, followed by the ligature of the prepuce for a few hours, also gave rise to cystitis and nephritis.

In several male dogs inoculated in the same manner, and fed on meat, and in a number of females, which, after perineal section on the dogs, had been accidentally contaminated by the use of an uncleaned catheter, lesions less serious were found and death was less common, but still, however, with the presence of granular casts and *micrococci* in the urine, which always remained acid (or at least neutral). At the post-mortem of some of these the vesical mucous membrane was found to be red, and the kidneys, which were often pale in color, also contained *micrococci*.

These results seem to prove that when introduced into a healthy urinary apparatus the *micrococcus* urinæ will develop itself even when the urine is acid, and gives rise to vesical and renal lesions, likely to be followed by death—conditions which, doubtless, are not without similar results in human pathology. (*Academie des Sciences.*)

INFLUENCE OF ARTIFICIAL LIGHT UPON THE VEGETATIVE PROPERTIES OF THE BACILLUS ANTHRACIS.

BY S. ARLOING.

The conclusions resulting from the experiments made are as follows: 1st. If vegetability means the power that belongs to the sporulated mycelium, or the free spores, to produce a new mycelium, it is observed that this power is rapidly lost in freshly sowed bouillons by the rays of a July sun. An exposure of two hours, with a heat of $+ 35^{\circ}$ and $+ 39^{\circ}$, produces this result. 2d. When the solar influence has lasted for two hours, the vegetability is only interrupted for a certain time. 3d. If we would discover which of the rays of solar light possess such an influence

on the bacillus, it may easily be observed that it is the effect of the complete, entire body of light to which it is referable, and that it is also the more marked in proportion to the intensity of this light. 4th. These results are analogous to those which the author has already observed with artificial light.—*Academie des Sciences*.

UPON THE PASSAGE OF PATHOGENIC MICROBS FROM THE
MOTHER TO THE FŒTUS IN THE MILK.

BY M. KOUBASSOF.

Two series of experiments have been made. In the first the author has clearly observed the passage of the microbe of anthrax, hog cholera and tuberculosis in the milk, and the absence of any effect produced by the milk thus affected when given to the animals fed upon it. The conclusion he forms is that milk containing pathogenic microbes is not contagious; a condition which must thus be due to the integrity of the mucous membrane of their stomach and intestines.

In the second series the author brings to notice the evidences that there exists a direct communication between the blood vessels of the mother and those of the fœtus.

In conclusion, Mr. K. says:

1st. The bacili of anthrax, hog cholera and tuberculosis, inoculated to a female recently delivered, pass in the milky secretion.

2d. When once in the milk, the bacilli remain in it until the end of lactation in the teats of the female.

3d. Fœtuses fed on milk containing bacilli of anthrax, hog cholera or tuberculosis, remain exempt from these diseases and live, even when their mothers die from it.

4th. The passage of the microbes of the mother to the fœtus depends probably on the existence of direct communication in the placenta between the blood vessels of the mother and those of the fœtus.—*Academie des Sciences*.

EXTRACTS FROM FOREIGN JOURNALS.

IODOFORM TREATMENT OF A CASE OF CANKER OF THE FOOT.

BY MR. GILLIBERT.

A gelding, eight years old, was affected with canker of the left fore foot, which, notwithstanding the regularity of the dressings and the use of the various modes of treatment recommended, resisted for three months; only a slight occasional improvement, followed by relapse, being obtained. Four months after the first attack the disease had made its appearance on both hind feet. The same daily attention was continued, but careful dressing brought on only temporary relief, and at the end of the fifth month the severe treatment of nitric acid and perchloride of iron failed to secure advantageous result. It was then that iodoform was for the first time used. The powder was laid over the entire diseased surface, and kept in place by a proper dressing. This was renewed every day for the first three days, and then every forty-eight hours.

At the second dressing the discharge had diminished, and the foot looked better. At the fourth, the wound was rosy, and surrounded by a thin, whitish band of new hoof. The suppuration was of a better nature. On the sixth day, small spots of adherent and hard hoof were found over the denuded sole. At the eighth dressing, everything was improved; and at the tenth the fore foot was cured.

Treatment with iodoform was then employed on one of the hind feet—the right one—the left being left alone as witness. The recovery of the right foot took place as rapidly as that of the fore foot. Treatment of the left foot, so far unsuccessful by the other classic medications, also secured recovery in eight days. Since that time no return of the disease has been observed.—*Recueil de Medecine Veterinaire.*

TREATMENT OF LOCKJAW WITH PHENIC ACID.

BY MR. POINOT.

Reports having been made of the advantage obtained with creosote in the treatment of lockjaw, in which the applications of

the ointment of that preparation upon the masseter muscles, or over the entire spinal column, had been followed by relaxation of the trismus, of the dilatation of the nostrils, and of the corded condition of the flank, the author was brought to the trial of this medicine with satisfactory results.

First, two horses, previously treated by chloral hydrate without results, received a friction over the body of phenic acid with one-tenth solution, which lasted from seven to eight minutes. In these animals the frictions were renewed forty-eight hours afterwards, and were soon followed by the general effect of the absorption of the drug. The recovery became well established after the fourth application, and the animals were able to resume their work a month afterwards.

Another case is recorded of an animal suffering from traumatic lockjaw, following castration. At the onset of the disease he received chloral without benefit, and was placed under phenic acid treatment. The solution one-tenth, having been accompanied with sloughing of the skin in the first case, it was reduced to the strength of one-twentieth. This patient received five frictions, the first three daily; the others every other day. Recovery was rapid.—*Ibid.*

CÆSARIAN OPERATION IN THE BITCH.

BY MR. V. PEUPION.

The author divided the operation into five steps, as follows:

1st. The animal lying on the proper side, (right or left), an incision eight centimeters long was made through the skin, from the external angle of the ilium forward and downward, toward the last rib. Then the aponeurosis and muscles were divided, and when the wound was bloodless the peritoneum was exposed, punctured with the bistoury and opened in the direction of the cutaneous opening.

2d. The abdominal walls being opened, the intestinal and uterine horn were exposed, and the opening of the foetal membranes sac was accomplished. Bringing the horn as near to the opening of the skin as possible, the various coats of the organ were succes-

sively divided to a sufficient extent to allow the escape of the fœtus.

3d. This was done with the forceps, and was effected as carefully as possible, in order to avoid injury to the uterus.

4th. The organ was sewed up, by a simple interrupted suture, carefully put on; all the ends of which were gathered together and brought outside of the cutaneous division.

5th. A continued suture was employed to bring together the skin and muscles, and the wound was treated antiphlogistically.

After referring to a number of unsuccessful cases on record, the author describes one case in which all these steps were carefully followed, and which ended by recovery.—*Ibid.*

GOURMY DIATHESIS—ABSCESS OF THE STOMACH.

BY MR. SALORME.

This is an unusual complication of distemper, not mentioned in veterinary literature. The animal subject of the report had died with pleuro-pneumonia and gangrene of the right lung. Death would at any rate have taken place without these complications, on account of the trouble of the stomach, a condition which was discovered at the post mortem, when the organ was to be pulled out of the abdominal cavity. During life the animal had very large abscesses in the intermaxillary space; an abundant yellowish discharge from both nostrils; a few buttons of horse pox on the nose and internal face of the upper lip. The abscesses were opened with the actual cautery. Nothing important took place for a few days following after, except that the appetite had entirely disappeared. Notwithstanding the most active treatment, the animal died about four weeks after the first attack. The abscess was about the size of an apple, and contained some white creamy pus of good character. It was situated in the middle of the fleshy coat, and had an opening on the side of the mucous membrane. The inside of the stomach showed its surface in a healthy condition and covered on the left sac with a large mass of bots, some three hundred in number.—*Ibid.*

FIBROUS MYOMA OF THE SMALL INTESTINE IN A MARE.

BY M. CADEAO.

The subject of this report was losing flesh for about three weeks, and was suffering with intermittent, slight chilly pains after each meal. She soon died, and the post-mortem revealed the following lesions: Rupture of the stomach, with a tumor of the size of a child's head, at about a yard and a half from the pylorus. This was irregularly globular, hard, of a gray whitish color and surrounded the intestine in a muff-like manner, being narrowed in its central diameter. This was the cause of the rupture of the stomach, it having interfered with the passage of the food. Examined microscopically, it proved to be a fibrous myoma, constituted in great part of fasciculi, parallel or intercrossed, and more or less undulated. Each fasciculus contained fusiform cells, with large nuclei irregularly scattered round. Some of those cells were in process of formation, and others were undergoing granulo-fatty degeneration.—*Ibid.*

REPORTS OF CASES.

ASCITES IN A HEN.

BY B. McINNES, JR., V.S.

Having a fine Leghorn hen, about three years old, in seemingly good condition, and depositing eggs regularly, I noticed that she was getting very large in the abdomen and unable to fly up to roost. I thought she had a large tumor of some kind in her. I caught her one day when she seemed to be almost exhausted from the heat and the weight she was carrying, and to my surprise found she had dropsy. I do not think I can say ascites abdominalis, there being no diaphragm in the fowl, and the fluid evidently filled the whole cavity. I tapped the abdomen by making an incision about one inch long, when there must have not less than three pints of a water white fluid escaped from her. I put one stitch in the opening, and she seemed perfectly relieved, and what is more remarkable, kept on depositing eggs. About three

weeks after this I noticed she was large again and not able to walk very fast. I caught her, made another incision at the same point, and twenty-four ounces of water white fluid escaped. This relieved her again. She then stopped depositing eggs, but seems in perfect health, comb very red, and plumage in fine condition. About three week after the second tapping she filled again, and I again tapped her, and exactly twenty-four ounces of fluid escaped. It has been now five months since the third tapping, and the hen appears quite well. No constitutional treatment was given. The hen was fed on oats only.

The second and third time I tapped the hen I measured the fluid with a graduated glass.

SANITARY VETERINARY LEGISLATION.

RULES FOR THE GUIDANCE OF VETERINARIANS.

ILLINOIS LIVE-STOCK COMMISSION.

When an assistant veterinarian is notified of the existence of a supposed case of pleuro-pneumonia among cattle or glanders among horses, he shall make a thorough examination of the diseased animals, and if he is convinced that the case under consideration is a genuine case of one or the other of these diseases, he shall at once notify the owner in writing of his opinion regarding them, and shall warn the owner or owners under penalty of the law from moving to or from the infected premises any animals of the kind diseased. He shall then notify the State Veterinarian of his investigation and belief, and request his immediate presence at the infected point, and shall also report to the Commission all particulars in the case as to name of owner, locality, and supposed disease, together with the number of animals affected, but in no case are assistant veterinarians to order the slaughter of animals affected, unless expressly authorized by the Live-Stock Commission.

The compensation of assistant veterinarians is fixed at \$1 per hour for parts of a day, and not to exceed \$8 per day in addition to their necessary expenses in going from and to their place

of business, and they are restrained from receiving any compensation from private individuals during the time actually employed in the service of the State. It is also made the duty of assistant veterinarians to at once notify the Live-Stock Commission should it come to their knowledge that cattle have come into this State from localities in other States against which the Governor has complained, giving all the facts obtainable in the case. The rules instruct the assistant veterinarian to enter any lane, dairy or cow shed, or other place or building wherein they have reasonable grounds for supposing that pleuro-pneumonia or glanders exists or has existed for sixty days prior to the time of the visit, or where the carcass of an animal so affected has been kept, or buried, or otherwise destroyed in violation of law, or where they have reason to believe any provisions of the law under which they are acting have been violated, and in case the owner refuses them entrance they are to procure a warrant for his arrest for violation of the law.

When any person desires to ship animals to a State which has proclaimed against this State, the State Veterinarian and assistant veterinarians when called upon are required to make examination of such animals, and, if found healthy and to conform with the provisions of the law in all respects, to furnish the owner with a health certificate, but for such service they are to be paid by the owner and receive the same compensation allowed by the State, together with their necessary expenses in performing the service, and in no case will the State be liable for such cost of service.

When the State Veterinarian makes an examination of the animals on any premises, and is convinced that either of the above-named diseases exists, he is required to serve a notice to that effect on the person in charge, and, if he deems necessary, upon the persons in charge of adjacent premises or farms, and shall at once notify the Commission, and when they are satisfied of the correctness of the report of the State Veterinarian, they will order the quarantine of the infected premises, and if necessary, the adjacent premises, farms and highways, and they will from time to time, as they see fit, by order extend, contract or otherwise alter the limits of a place or area infected. The Com-

mission will cause to be slaughtered all animals deceased with lung plague. All cattle having been in close contact with those infected with lung plague will be killed or placed in strict quarantine, as the Commission may direct, at the expense of the owner. They will also, as they may deem to be the most prudent, order either the slaughter or close quarantine of all animals suspected of infection with lung plague or being in a place infected.

The rules provide for the total destruction of the carcasses of diseased animals, including the hide, by fire or otherwise ; but in cases where animals suspected of contagion are killed and are found to be healthy, the carcass may be sold under such regulations as the Commission may prescribe, and in case the amount received for the carcass exceeds the appraised value of the animal, the excess will be paid to the owner. The rules provide for slaughtering animals on the infected premises, and for disposing of the carcasses, when practicable, there. An appeal is given persons aggrieved from the decision of the State Veterinarian to the Commission, but pending the disposition of the appeal, the restrictions imposed shall stand in full force. The State and Assistant Veterinarians are required to make monthly reports to the Commission. They are also charged to use diligence in the case of circus troupes, bands of gypsies, and herds of horses in the hands of traders to detect cases of glanders, and applies the same rule as in other cases. They are charged to observe the greatest forbearance consistent with the public safety in dealing with persons so unfortunate as to possess diseased animals. The same document also contains important suggestions as to disinfection of premises, etc.—*National Live-Stock Journal*.

RULES AND REGULATIONS GOVERNING QUARANTINE AND THE ADMISSION OF CATTLE INTO WYOMING TERRITORY.

(Extract from Chapter 41, Laws of 1882.)

SECTION 2. The duties of said veterinarian shall be as follows
* * * And to inspect under the regulations of this act all domestic animals that may arrive at any railroad station in this Territory, * * * and it shall be the duty of the owner, or in his

absence, of the person in charge of such animals so arriving, to notify the Territorial Veterinarian without delay, and not to allow such animals or any of them to leave the place of arrival until they shall have been examined by the Veterinarian and his certificate obtained that all are free from disease. * * * Any person failing to comply with this provision shall be deemed guilty of misdemeanor, and, upon conviction, shall be fined not less than fifty nor more than five hundred dollars for each offence.

SEC. 9. The above regulations shall apply as well to animals in transit through the Territory * * * and the Territorial Veterinarian or his duly authorized agent shall have full authority to examine, whether in car, or yard, or stables, all animals passing through the Territory or any part of it, and on detection or suspicion of disease to take possession of and treat and dispose of said animals in the same manner as is prescribed for animals resident in the Territory.

WHEREAS, the Governor of Wyoming did by proclamation on the 7th day of August, 1885, on account of the existence of contagious diseases among the cattle, schedule certain localities, and forbid the importation of cattle therefrom, except only on the conditions and under the restrictions following :

1st. All cattle from localities scheduled by Governor's proclamation will be quarantined on arrival in Wyoming.

2d. Cattle from localities not named in Governor's proclamation must present proof: That they have been kept on one farm for the last four months; that no animals have been added to the herd during that period, and that no contagious disease has existed in the herd or vicinity.

3rd. Affidavits of owners will be accepted as proof when the affiant's respectability is certified by his county clerk, or president of the bank in which they do business.

4th. Dealers' cattle, gathered over a wide extent of country, will be quarantined on arrival here—(unless kept together four months previous to shipment).

5th. Veterinarians' certificates of health are of no value, unless accompanied with proof that the herd have been isolated the previous four months.

6th. All cattle from the Western States, unable to furnish satisfactory proof, will be furnished corralls and sheds, and will be held in quarantine until by lapse of time they are proved free from disease—not more than ninety days. Cattle held in quarantine are at owners' risk and expense, and they will be allowed to buy feed in the market at the lowest rates.

7th. All cattle from the Southern States must furnish proof that they have been north of the "Fever line" ninety days, or they will be quarantined until by lapse of time they are deemed safe to mingle with the native cattle—at least sixty days.

8th. All cattle coming into or passing through this Territory must unload at Cheyenne for inspection and examination of proof, and all such cattle are subject to the sanitary laws in force here.

9th. All cattle arriving here will be inspected free of charge to owner.

JAS. D. HOPKINS, Territorial Veterinarian.

Cheyenne, Wyo., August 6th, 1885.

A PLEURO-PNEUMONIA PROCLAMATION.

The Illinois Live Stock Commission is in receipt of a proclamation of quarantine issued by the Governor of Wyoming, Aug. 7, wherein he schedules against the following localities where it is represented to him pleuro-pneumonia exists in an epidemic form, and from which localities he forbids the shipment of cattle into or through Wyoming, except under restrictions set forth:

New York—The counties of Putnam, Westchester, New York, Kings, Richmond and Queens.

Pennsylvania—The counties of Bucks, Montgomery, Philadelphia, Delaware, Chester and Lancaster.

New Jersey—The counties of Bergen, Hudson, Morris, Essex, Union, Somerset, Hunterdon, Middlesex, Mercer, Monmouth, Ocean, Burlington, Camden, Gloucester, Passaic and Atlantic.

Delaware—The county of Newcastle.

Maryland—The counties of Cecil, Harford, Baltimore, Howard and Carroll.

Ohio—The counties of Miami and Montgomery.

Illinois—The counties of Cass, Kane, Du Page, Peori, White-side, Morgan and Schuyler.

Osage county, Missouri; Harrison county, Kentucky; Travis county, Texas; and the District of Columbia are also included.

The proclamation also recites that splenic or Texas fever exists in certain localities in Texas, and forbids the transportation of cattle into or through Wyoming. The proclamation provides that all animals brought into that Territory from points lying east of the ninth degree of longitude west shall be brought by rail and shall be unloaded at the Territorial quarantine station and there be subjected to a rigid inspection by the Territorial Veterinary Surgeon.

It is a pretty clearly demonstrated fact that at present there is no pleuro-pneumonia existing in an epidemic form in Illinois, though it is said that it is not certainly known that there is not one or two localities where there is danger to be apprehended. Some of the localities mentioned in this State in this proclamation, however, are unjustly discriminated against. The Illinois Live Stock Commission will hold a meeting at an early date and take action on the quarantine restrictions to be inaugurated in this State under the new law.

Gov. Oglesby has turned over to the Auditor for payment claims for animals slaughtered under the old law on account of being diseased or infected with pleuro-pneumonia. The claims aggregate about \$7,000, being the amount of the appraised value of the animals; but since the new law provides that owners of animals killed by the State Veterinarian cannot receive in excess of \$75 per head, the Auditor cannot pay the full amount, and the amount will be reduced fully one-half.—*Western Rural*.

CORRESPONDENCE.

PROLIFIC COW.

DEAR SIR.—A cow belonging to Leander Sherman, Burrillville, R. I., four years old, gave birth, on September 5, to three calves. All are doing well up to date. The cow is a thoroughbred Ayrshire and the bull the same.

Yours in haste, C. H. PEABODY.

LIST OF THE VETERINARY SURGEONS IN THE UNITED STATES ARMY.

Name.	Graduate of	Regiment.	Address.
R. B. Corcoran....	Not Graduate.....	1st Cavalry.....	Fort Custer, Mont.
E. R. Forbes.....	Ontario College.....	2d "	Fort Walla Walla, W. T.
W. J. Waugh....	Ontario College.....	3d "	Fort Davis, Texas.
B. D. Pierce.....	Montreal, M.R.C.V.S....	5th "	Fort Riley, Kans.
J. A. Waugh....	Ontario College.....	6th "	Fort Bayard, N. Mex.
W. A. Going.....	M.R.C.V.S.....	7th "	Fort Meade, Dak.
M. J. Treacy.....	M.R.C.V.S	7th "	Fort Meade, Dak.
A. R. Balkam....	Columbia V. C.....	8th "	San Antonio, Texas.
A. G. Vogt.....	American V. C.....	8th "	San Antonio, Texas.
John Tempamy....	Not Graduate.....	9th "	Fort McKinney, Wyo.
Alex. McDonald.....	Ontario.....	9th "	Fort McKinney, Wyo.
S. W. Service	Not Graduate.....	10th "	Whipple Barracks, Prescott, Ariz.
A. E. Buzzard.....	M.R.C.V.S	10th "	Whipple Barracks, Prescott, Ariz.

SOCIETY MEETINGS.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

The regular annual meeting of this Association was held in the lecture room of the American Veterinary College, Tuesday, September 15th, at noon.

There was no action taken by the Comitia Minora further than to recommend to the general meeting several applicants for membership.

The minutes of the Comitia Minora and of last general meeting were read and approved. Upon roll call nearly fifty members responded to their names.

The following delegates from the Pennsylvania State Veterinary Medical Association were present: Drs. W. S. Kooker, Thos. B. Rayner and J. B. Rayner. From the Massachusetts Veterinary Association, Drs. Bunker and Howard.

Communications were also received from other State societies.

The following gentlemen were then admitted as members: Drs. J. A. McLaughlin, A. L. Brown, S. L. Richards, H. T. Yokura, J. P. Wilson, W. G. Hollingworth, Wm. Diamond, J. W. Scheibler, Wm. R. Mitchell, W. H. Prophett, T. W. Spranklin, M. R. Trumbower and H. F. James.

There were numerous applications for membership presented, to be voted on at the March meeting of the Association.

The election of officers for the ensuing year resulted as follows: President, L. McLean, M.R., C.V.S.; Vice-President, J. B. Cosgrove, D.V.S.; Secretary, Ch. B. Michener, D.V.S.; Treasurer, J. L. Robertson, M.D., V.S.; Board of Censors, Drs. D. J. Dixon, A. Lockhart, J. C. Corlies, W. J. Crowley, W. B. E. Miller, S. S. Field and F. H. Osgood.

Appropriate remarks followed by the retiring and newly elected presidents, after which a short adjournment was taken.

A large amount of unfinished business was left over for the spring meeting.

The Treasurer's report showed the finances of the Association to be in a flourishing condition. A unanimous vote of thanks was tendered to the retiring Treasurer, who for so many years has faithfully discharged the duties of that office.

Several papers were presented through the Committee on Diseases which were, by vote, ordered to be published in the *AMERICAN VETERINARY REVIEW* and *Journal of Comparative Medicine*.

A communication was then read from Dr. Hodgson of Brooklyn, asking inspection of an operating table lately devised by him.

Dr. Miller then presented a small instrument for giving minute doses of medicine by the mouth.

The Association was then favored by Dr. F. S. Billings, who presented a few remarks on the pathological lesions and microscopic changes of the lungs in the various forms of pneumonia. The Doctor took advantage of the subject to exhibit a number of specimens with the microscope, among which was that of the lung of a cow destroyed for contagious pleuro-pneumonia, which under the lense, however, appeared to be of a different nature. This gave rise to an interesting discussion between Drs. Billings, L. McLean and Liautard.

It was moved that a committee of three be appointed to petition the proper authorities, and to secure if possible, more recognition of the services of American veterinarians.

The editor of the *AMERICAN VETERINARY REVIEW* supplemented the prize of fifty dollars now offered by the Association for the best paper presented, with the generous offer of a gold medal valued at fifty dollars.

The Association adjourned after listening to the reading of a very laughable advertisement presented by Prof. Huidekoper.

C. B. MICHENER, *Secretary*.

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of the New York State Veterinary Society was held on Tuesday, September 8, 1885, at the American Veterinary College, New York. Dr. S. Field in the chair

Members present were Drs. Coates, C. C. Cattanaeh, Field, Dimond, Denslow, Pendry, Kay, R. Ogle, Faust and Jacobus.

Minutes of last meeting were read, and on motion adopted.

On the reading of papers for this meeting there was some discussion, resulting in a motion being passed requesting Dr. Kay to read his paper at the next meeting, so that it could then be discussed fully. And also, that the Secretary ask Dr. Cuff to favor the Society with his promised paper at its next meeting.

Prof. F. S. Billings was proposed for membership by Dr. R. A. McLean. The name of J. Blake White, M.D., was also proposed and referred, with the former, to the Board of Censors.

The application for membership by Dr. Lowe was brought forward, when it was moved, that he being a non-resident of the State, and having lately been elected Secretary of the New Jersey State Veterinary Society, the matter of his application be dropped. The motion was passed and the meeting adjourned.

W. H. PENDRY, *Secretary*.

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting of the Pennsylvania State Veterinary Medical Association was held at Doylestown on September 8, 1885. President Sallade called the meeting to order at 10:45 a.m.

On roll call Drs. Sallade, Fly, Zuill, Jas. B. Rayner, John B. Raynor, Keil, Thos. B. Rayner, Minster, Glass, Hoskins, George B. Rayner, Hart, Schaufler, Hooker and Lovette responded.

The minutes of the March meeting were read and after two corrections adopted.

Applications of the following for membership were then received: Drs. N. Ruektenwald, Pittsburg; H. T. George, Greencastle, and Isaiah Michener, J. Curtis Michener and Jouathan Price, and W. U. Custer of Reading. A recess being given the Board of Trustees acted favorably on all the applicants.

On reconvening the report was received and the above gentlemen elected to membership.

Dr. Hoskins then called up his motion of the March meeting, that the code of ethics then adopted be placed as an amendment to the By-Laws, which, after reading the code, was passed.

Dr. Zuill then reported the completion of the committee's work on securing certificates and seal, and Dr. Minster the work of the Committee on Reception at Doylestown.

Reading of papers being in order, Dr. P. M. Minster offered a short paper on "Contraction of the Foot," completing his remarks by advocating as a medium for overcoming the same, the Vandegrift shoe.

Dr. Thos. B. Rayner followed with an article on "Tetanus," but offered no special treatment.

In the discussion that followed both articles brought forth much difference of opinion, the Vandegrift shoe receiving little support save from the essayist.

A committee of three was appointed to supervise the printing of the Constitution and By-Laws.

At this point Dr. Hoskins made a few remarks touching upon the entrance of Dr. Isaiah Michener as a member, and proposed as a token of appreciation of this honor and his faithful and venerable career as a veterinary practitioner, that he not only be admitted as a member, but that he be placed on the roll of honorary membership and be exempt from all fees and dues, which was ably seconded by Dr. Zuill and others, and on motion unanimously adopted.

Dr. Hooker then referred to the death of one of our members, Dr. John Berry of Philadelphia, and moved that the President appoint a committee to take suitable action upon the same.

The name of Dr. R. P. Huidekoper was presented, as well as Dr. Gottlieb Myers of Allagheny, Pa.

Drs. McCoart, Hart, Schaufler, Goentner, Kerlor and Zuill were appointed essayists for the next meeting.

At the suggestion of Dr. Hoskins the President appointed Drs. Jas. B. Rayner, Thos. B. Rayner and W. P. Hooker delegates to the United States Veterinarian Medical Association, meeting in New York on September 15th, and the Secretary was directed to give notice of the same.

Drs. Glass and Hart were appointed a Committee of Reception and arrangements for the Philadelphia meeting, after which the meeting adjourned.

W. HORACE HOSKINS.

NEWS AND SUNDRIES.

SKILLED VETERINARIANS.—President Willits, in addressing the Veterinary Department of the Agricultural College of Michigan, said: "This is now of prime importance in consequence of the large interests engaged in stock raising, and the prevalence of communicable diseases among animals. With eighteen States at this hour quarantined against the stock of other States in consequence of these diseases, it is important that we should have men educated specially in veterinary science; that we have in considerable numbers persons skilled in the diseases of domestic animals, and that we no longer depend upon the limited acquirements of the old-fashioned 'horse doctor.' The last Legislature, with commendable liberality, has afforded the college the means to erect a building especially devoted to that science, with a museum and lecture-room, with operating rooms and dissecting tables, with manikins and skeletons and all the apparatus needed to illustrate the subject as fully as the best medical colleges illustrate the subject of the diseases of the human body. All the students in the agricultural course receive instruction in this science, and the interest which they have exhibited in the lectures fully indicates their appreciation of its importance."—*Prairie Farmer*.

OHIO STATE UNIVERSITY VETERINARY CHAIR.—At their last meeting the trustees of the Ohio State University decided upon the establishment of a Chair of Veterinary Science. The salary of the professorship is fixed at \$1,000 per year. The position is to be tendered to Prof. H. J. Detmers, of Champaign,

Ills. The course of veterinary science will cover at least three, and possible four years, and be the most complete that there is in any institution on this continent (?), except one in Montreal. —*Ohio Journal*.

A SUBSTITUTE FOR CARBOLIC ACID.—The extraordinary power of naphthol as an antiseptic and disinfectant has been known for a long time; but its disagreeable smell, and the difficulty of preparing it in a pure state, with the occasional toxic action of the crude naphthol, have hitherto prevented its general adoption as a remedial and antiseptic agent. Justus Wolff, a chemist interested in coal-tar products, has recently succeeded in producing it in a pure and odorless state in well-defined crystals, and he claims its antiseptic action is much greater than that of carbolic acid. Recent research has demonstrated that the toxic effects of crude naphthol were due to the impurities it contained. Dr. Shoemaker, of Philadelphia, in a paper read before the Philadelphia County Medical Society, on the "Medical Use and Value of Naphthol," conclusively proved the non-poisonous character of the purified or odorless naphthol by taking large doses internally. It has no corrosive action on the skin, and will not injure textile fabrics. As a remedial agent it is said to act with greater efficiency than carbolic acid, and if so, the fact of its being absolutely odorless will make it a desirable substitute for the latter. It is expected that it will shortly be manufactured in large quantities and introduced as a substitute for carbolic acid.—*Medical Record*.

THE WAY TO PREPARE SURGICAL SPONGES.—The following is Mr. Lawson Tait's method of preparing the sponges, and but one person is trusted to do this: New sponges are first put into a large quantity of water, with sufficient muriatic acid to make the water taste disagreeably acid. They remain in this mixture until all effervescence has ceased and all the chalk is removed. For this purpose it may be necessary to renew the acid several times. The sponges are afterward carefully and thoroughly washed, to make them as clean as possible and free from every rough particle. After being used at an operation, they are first washed free from

blood, and then put in a deep jar and covered with soda and water (one pound of soda to twelve sponges). They are left in this about twenty-four hours (or longer if the sponges are very dirty), and then they are washed perfectly free from every trace of soda. This takes several hours' hard work, using hot water, squeezing the sponges in and out of the water, and changing the water constantly. Leaving them to soak for a few hours in very hot water greatly assists in the cleansing. When quite clean they are put in a jar of fresh water containing about one per cent. of carbolic acid, and after being in this for twenty-four hours they are squeezed dry and tied up in a white cotton bag, in which they are hung up in some dry place.—*Medical Record*.

EXCHANGES, ETC., RECEIVED.

FOREIGN.—Veterinarian, Veterinary Journal, Annals de Medecine Veterinaire, Clinica Veterinaria, Recueil de Medecine Veterinaire, Presse Veterinaire, Echo Veterinaire, Gazette Medicale, Revue d'Hygiene, Revue fur Thierheilkunde und Thierzucht, Journal de Zootechnie.

HOME.—American Farmer, Country Gentlemen, Prairie Farmer, Medical Record, Medical Herald, Farmers' Review, Breeders' Gazette, College and Clinical Record, American Agriculturist, Maine Farmer, Science, Home and Farm, Turf, Field and Farm, Spirit of the Times, National Live Stock Journal, Home Farm, Practical Farmer, Druggists' Circular, Ohio Farmer, Iowa Farmer, etc.

CATALOGUES.—Schweizer Archivs fur Thierheilkunde, Bericht deber das Vetennarrinen, Catalogue Polyclinic School, Catalogue Post Graduate School of Medicine, Montreal Veterinary College.

JOURNALS.—American Medical Digest, Cooper's Medical Announcement, Wallace's Monthly, Farm and Garden, Home Journal, Eastern Medical Journal, Western Reporter, Dairy World, American Sheep Breeders' Gazette, Philadelphia Times, Northwestern Live Stock Journal, etc.

BOOKS AND PAMPHLETS.—Bulletin de l'Academie de Medecine, Répertoire de Medecine Dosimétrique, Report sur l'Etat Sanitaire des Animaux Domestiques au Brabant, Dancing Mania of the Middle Ages, Wyoming State Growers' Association Reports, Laws of Nebraska, Laws of Tennessee.

CORRESPONDENCE.—J. D. Hopkins, D.V.S.; J. Meyer, Jr., M.D., D.V.S.; B. McInnes, Jr., M.R.C.V.S.; C. H. Peabody, D.V.S.; H. Hoskins, D.V.S.; W. Pendry, D.V.S.; D. Dixon, D.V.S.; C. B. Michener, D.V.S.; R. F. Burleigh, D.V.S.; W. Critcherson, D.V.S.; D. L. Phares, A.M., M.D.

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School of Veterinary Medicine.

Session 1885,—86.

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Boston, and on June 25th in Exeter, Andover, New York, Philadelphia, Cincinnati, Chicago,
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AMERICAN VETERINARY REVIEW,

NOVEMBER, 1885.

EDITORIAL.

THE AMERICAN VETERINARY REVIEW PRIZE.

We desire to call the attention of our friends in the profession to our offer of a premium of a GOLD MEDAL, valued at FIFTY DOLLARS, for the most excellent of the essays offered for publication in the REVIEW, and which must be understood to be quite independent of the prize offered by the United States Veterinary Medical Association, and additional to that or any other similar proposition.

We repeat the terms and method of the contest:

Each essay is to be enclosed in a sealed envelope, on which some distinguishing motto, selected by the author, is to be inscribed. This must be accompanied by a second envelope, securely sealed, inscribed in duplicate with the same motto, and enclosing a card containing the name and address of the writer. The name of the successful essayist will be ascertained, after publication, by a majority vote of the members of the Association, voting upon the distinguishing mottoes, and only after the question has been irrevocably determined will the envelope be opened in which the name of the successful essayist has been deposited.

Each member of the profession, in and out of the Association, subscriber or not subscriber of the Review, is entitled to compete.

DR. A. JACOBI ON THE RECOGNITION OF THE VETERINARY
PROFESSION.

In the October REVIEW we ventured an inquiry as to what would probably be the reception which might be anticipated from American practitioners of human medicine to such of their European brethren in the veterinary branch of the science as might venture to cross the ocean to attend the contemplated international veterinary congress.

Our inquiry was prompted by our knowledge of the fact that medical bodies in this country decline to admit veterinarians, as such, to their membership; that if any veterinarians, being also physicians, are received into their fellowship, it is alone in virtue of their being practitioners in the department of human medicine; and that even individuals of this class, are, because of their dual qualifications, refused recognition by the New York Academy of Medicine, the most eminent of the medical institutions of our State, a clause of the by-laws of the Academy making the practice of human medicine obligatory upon its members.

If we have not fallen into an error of which we are quite unconscious, our inquiry is lacking in neither propriety or pertinency, and the learned President of the Academy of Medicine, Professor A. Jacobi, in his address to that body, has gone far towards furnishing an answer to our query, in giving expression to his views in relation to certain changes which he advocates in the rules which refer to the admission of members and the objects which should be contemplated as involved in the consideration of the qualifications of candidates.

No one acquainted with Dr. Jacobi will be surprised at his words. His fairly won reputation, his impartial spirit, his devotion to the cause of true progress, his desire for information wherever to be obtained, all have placed him in the foremost rank in his profession. Veterinarians will therefore gladly accept his utterances before the Academy when he says: * * * "*Disease is many-sided, and we wish to include in our organization those who see it from every side* * * * *all, therefore, whether hospital physicians, family and school attendants, SPECIALISTS, medical*

*officers, * * will be asked to contribute their quota of observation to the common fund.*"—(*N. Y. Med. Journal.*)

It is true that veterinarians by name do not appear in these sentences, but if we are not "specialists," and if we are not amongst those who are accustomed to view and to study disease "from every side," how shall we be described?

We fully believe that Dr. Jacobi in this address has had but one object in view, and this is to fill the ranks of the institution over which he presides with the material which will supply the need which is peculiar to similar institutions in this country. For while in every similar institution in Europe, as in this country, the various branches of medicine are represented by "sections," such as those of pathology, therapeutics, obstetrics, surgery, etc., always ready for the reference of subjects cognate and pertinent, we have to regret the lack of that section which is considered to be so important in Europe; a section which from time to time has presented many valuable documents, full of important facts and discoveries, and which includes men of the highest culture and standing in their specialty—we mean the specialty of veterinary medicine.

This section does not now exist in the New York Academy of Medicine, but we have a conviction that Dr. Jacobi designs to take active steps for its formation, which after all cannot be so difficult of accomplishment. We cannot anticipate that every veterinarian will become a member of the Academy, and we seriously doubt whether they would all prove to be fit persons for such an association. But we do believe that we have in this State a few who would by no means be out of place among the members of the Academy, and that in their respective callings they might contribute largely to the good work accomplished by this great medical body.

VETERINARIANS AND THE CONVENTION OF CATTLE GROWERS OF THE UNITED STATES.

The report presented through the Committee on Diseases to the United States Veterinary Medical Association was, like the others, simply "ordered to be published," and whether it was

noticed or not, will certainly not have the result that was anticipated by its author, Dr. Hopkins, State Veterinarian of Wyoming.

This gentleman has, for several years, made a special study of sanitary medicine in general, and principally in connection with such of the diseases of animals as may be liable to spread in our Western States. The suggestions contained in his report; the recommendations he called for in the appointment of a committee to act with the next National Convention of the Cattle Growers of the United States; the arguments which he urged in proof of the benefits which would accrue to veterinarians in general, from taking an active part in the proceedings of the convention—indeed, the report, in whole and in part, is too valuable a document to be ignored and entombed as it has been.

But Dr. Hopkins is not the man to surrender an idea or abandon an enterprise which interests him and to which he is in any wise committed, especially when the credit of the profession of his choice is at stake. He has favored us with a copy of a circular which he has addressed to all the State and General Government Veterinarians, and it is with pleasure that we herein present it to our readers. The call is made to State Veterinarians and Sanitary Boards, but is, no doubt, also addressed to all veterinary surgeons interested in sanitary medicine.

This convention of cattle growers will no doubt be composed largely of men ready to listen to the suggestions that may come from veterinarians, and we hope to learn that the call has met with a wide response. The object of the meeting will certainly prove interesting to all, and the current discussions that must take place cannot prove other than interesting and beneficial to our entire community.

VETERINARY EDUCATION IN AMERICA.

The important question of veterinary education in America is assuming a new phase. By a letter addressed to us, and which is published in the present issue, our readers will perceive that some of our friends have begun to understand the necessity for some changes in the management of the veterinary colleges of this

country, and to feel an interest in the matter of the proper quality of the practical education to be acquired by the students. Though the letter was addressed to us as Dean of the Faculty of one of the colleges, we have thought that it might be expedient, before giving expression to our own views in reply, to start an inquiry through the REVIEW as to the general opinion of the members of the profession upon the points involved. The three questions presented are important, and while the first and second principally concern the faculties of the veterinary colleges, the third is more certainly deserving of attention from ordinary practitioners. The question of pupilage has given rise to considerable discussion in England, and probably will not be decided on this continent without eliciting more. The pages of the REVIEW are thrown open to our friends for an expression of their opinion in this, as in other questions. At a later date we shall present our own thoughts, which we may say in the meantime are, with little variation, consonant with the suggestions made by our friends from the Ohio State Veterinary Medical Association.

DR. HOPKINS' LETTER.

We call the attention of our readers, and especially those who belong to the United States Veterinary Medical Association, to the letter that we have received from Dr. Hopkins, Territorial Veterinarian of Wyoming Territory. Written in his peculiar style, it expresses, no doubt, the feeling that many must have had when his report to the Committee on Diseases, and the excellent suggestions it contained, received so little attention at the September meeting of the Association. Perhaps, in thinking of this letter, the present officers of that honorable body will appreciate the need of a new departure in the workings of the Association.

CHEYENNE, Oct. 16th, 1885.

A. LIAUTARD, M.D., V.S., New York.

My Dear Doctor:—Yours of the 3d, also the REVIEW, are at hand. I am deeply mortified at the apathy displayed by the Association at the last annual meeting, as well as the lack of interest of veterinarians, in regard to the advancement of the profession, especially at this time, when the whole country is becoming sensible of the necessity of wholesome sanitary laws and their enforcement for

the protection of domestic animals. Never in the history of our profession has a time occurred in this country, when the services of veterinarians, experts in sanitary science, were more in demand, and relied on by the State authorities and the people, for sound scientific knowledge, to protect the prosperity of the nation, by demonstrating methods for controlling contagious diseases and preventing fresh invasions of the plagues which at present afflict the domestic animals of many parts of our country, and render the calling of agriculturists exceedingly precarious.

As an evidence of the appreciation of our branch of the medical profession, observe the haste with which agricultural colleges are adding veterinary science to their curriculum, in their efforts to keep their schools popular and supply a public necessity, in the person of a graduate (?) in veterinary and sanitary science.

It is a matter of sincere regret, and a great disparagement to a noble profession, that agricultural colleges should so belittle themselves and slander science, as to imagine, let alone attempt to educate young men in a branch of medicine so important, without having every facility for a thorough course in medicine and surgery, together with the practical training *absolutely necessary* in veterinary and sanitary science: the result will be that our country will be flooded with a most dangerous class of empirics, and the name of veterinarian become odious in public estimation.

If the Government would fix a standard of graduation in the veterinarian, or, better still, take entire supervision of veterinary schools through the appointment of a Board of Censors, whose duty would be to supervise such examinations and fix a standard of requirements necessary to graduate; then a veterinarian holding a diploma would be entitled to some honor, and the public assured of his ability.

I had entertained hopes that the United States Veterinary Medical Association at its last annual meeting held in New York would have considered this subject, as well as the spread of contagious diseases among the domestic animals in different States; a subject which during the past two years has occupied the attention of Congress and the Legislatures of many States. This subject has also been the engrossing topic of all agricultural and stock growers' societies, and has been freely handled by the "press," until almost every stockman of average intelligence is completely nonplussed by the conflicting opinions advanced. Hence, you can imagine my surprise to know that the Association supposed to be the head centre of the veterinary profession, and composed of gentlemen of acknowledged ability, had at great trouble and expense, met, elected new officers and adjourned, without reference to any question whereby the profession might have been benefitted, or the public served through a discussion of the sanitary condition of its domestic animals.

By its utter apathy, the twenty-third annual meeting of the Association has failed to grasp a great opportunity to forward the interests of the profession by demonstrating to the public, through the conventions of cattle growers about being held in Chicago and St. Louis, their views concerning the spread of contagion among domestic animals; the best methods of controlling plagues and their eradication; the people's right to indemnity for animals slaughtered to prevent the spread of contagion; the necessity of State legislation, and its peculiarities as relating to inter-state commerce and quarantine; also the quarantine of all cattle arriving from foreign countries, disinfection of ships, etc.

Had the Association considered the questions and given expression to their conclusions, then the hands of the few veterinarians engaged in official work would have strengthened, and the public enlightened as to the exact status of the different plagues which afflict our domestic animals; while the mercenary individuals and corrupt legislation would have received a check in their endeavors to make political capital or create places for partisans, at the expense of a suffering public and in defiance of all laws of sanitary science.

Very respectfully,

JAS. D. HOPKINS.

ORIGINAL ARTICLES.

DISEASES OF THE HEART IN DOMESTIC ANIMALS, ESPECIALLY THE HORSE.

BY FR. BLAZEKOVIĆ.

(Translated by J. C. Meyer, Sr., V.S.)

Continued from page 259.

III. ANATOMICAL DISTURBANCES—PATHOLOGICAL ANATOMY.

It is a well known fact, that at a post-mortem examination many sided anatomical disturbances and pathological changes of the heart and pericardium are found, where during life, heart diseases had scarcely been suspected. The post-mortem examination reveals that the change found in the heart had been the most important factor in the calling forth of the fatal disease.

In the following we shall discuss all such pathological anatomical changes as they are found upon the cadaver, be these diagnosticated during life or be they known for the first time at the post-mortem examination.

In the first place, it is important that we divide the collective changes of the heart into two categories, namely: The innate and the acquired abnormalities. We cannot always determine positively whether the existing changes be innate or acquired, for in the innate abnormalities, however slight, the germ for the development of this mortal affection slumbers; still I hold this division necessary for better understanding.

(A) *Innate Defects of the Heart.*—The innate defects of the heart are not as rare as is generally believed; however their diagnosis, even on the cadaver, is uncommonly difficult, for as a rule, it is found that a number of pathological processes and

changes in the heart are developed as attendants of the already existing anomalies, making the discovery of the primary innate abnormality exceedingly difficult; indeed, scarcely possible. The most striking feature of the innate anomalies of the heart is the change of position. This condition of things makes it useless to attempt to prove by the faulty position of the heart the time of the origin, as has been tried upon the human being. This remains a task for the embryologist.

Of the innate defects of the heart, the imperfect positions strike the examiner most frequently, but these also are often overlooked in practice. Taking for granted that the normal position of the heart is known, we shall bring forth some important moments: The connection of the heart with the lung forms in the first place, a region where abnormalities can occur, then the approximation of the apex of the heart to the thoracic walls.

The position of the anomalies are to be divided as follows:

(a) *Defective Position within the Cavity of the Chest.*—Growing together of the heart with the lung or diaphragm, cleaving of the pericardium, partial bursting and then growing together of the diaphragm, defective attachment to the walls of the vessels and the principal primary vessels, causing a shriveling of the heart, hence a change of space at the base and apex; a too deep position and envelopment of the lungs, producing a defective freedom of action; finally, a dislocation of the whole heart, as the result of growing together.

(b) *Defective Position of the Heart without the Cavity of the Chest.*—According to the views of Prof. Caroli,* it is mostly a laceration of the diaphragm originating from the early stage of the embryo, which admits a displacement either of the organs of the abdomen, or the organs of the heart into the abdomen, thus a sort of prolapse actually occurs. Animals with such prolapses can live a long time. Prof. Ceddi-Bologna describes a case of ectopia of one lobe of the liver in the pericardium of a mule which was destroyed in its twelfth year for anatomical purposes. I myself observed in a two-day-old filly, the position outside the

**Gazette Medico Veterinaria*; Milano, 1875.

cavity of the chest, wherein the apex of the heart projected through an opening in the diaphragm.

Defective form of the heart, without other established changes, is also an innate abnormality. In such cases the heart appears cylindrical, conical and blunted.

It is much more difficult to trace the innate defects in the interior of the heart, and however insignificant they appear, they still have an eminent influence upon the whole circulation of the blood. The following abnormal orifices in the ventricle of the heart, namely: Defective retention of the arterial orifices, imperfect closing of their orifices, imperfection in the position of the auricle and ventricle, insufficiency of the valves, thickening of the same, expansion and contraction of the orifices, total closing or opening of the aorta, entire lack of, or mere rudimentary existing valves, growing together of the same or their edges, callous changes and fatty degeneration of the muscle, are to be regarded as such defective cessation and division of the great vessels. Foetal myocarditis and foetal cyanose may be mentioned under this head.

(B) *Pathological Anatomy of Acquired Diseases of the Heart.*—The changes found in the heart and pericardium at a post-mortem examination are of various kinds, and is evidence of previously existing serious heart diseases, which were often overlooked during life time. The frequent accounts relating to the changes of the heart, in the yearly clinical reports, show that they are not rare occurrences. A post-mortem examination of an existing abnormality in one or another part of the heart affords an opportunity of acquiring knowledge, not only of the direction and course of the disease, but also of the possible existing complications. The post-mortem examination will also inform us that the consecutive diseases, such as diseases of the liver, spleen, kidney, etc., if not exclusively, certainly in the majority of cases, are not the cause of the heart diseases, but mostly the result of heart affection. However, it shall not be asserted that diseases of the above mentioned organs cannot generate diseases of the heart.

It is as necessary at a post mortem examination as at the diagnosis of a living animal, to determine certain limits in which the existing disease develops and which parts of the heart are

considered diseased. It is often very difficult to pronounce a precise separation of the diseased changes as the diagnosis demands. Notwithstanding the diagnosis specifies a certain part of the heart as being diseased, it is perceptible that the changes have spread beyond the part and taken possession of the whole or greater part of the heart. It is different when the processes in the heart have about run their course. There we shall find the diseased changes at the particular parts diagnosticated, though traces are always visible of expanded processes which receded to such an extent that the heart could still perform its functions. In chronic diseases, as in other cases, the slow but steady growth of the disease always appears. To ascertain more definitely such changes of the heart, a special classification is desirable.

(C) *Changes of the Muscular Substance.*—Anæmie and hyperæmie are often found in the muscle of the heart; the former usually as the result of chronic imperfect nutrition, for instance, in atrophy of the heart, neoplasm, a ossification of coronary artery; the latter, in the production of acute processes, chiefly inflammation of the heart, in various consecutive diseases, in a few constitutional diseases, which appear with violent attacks and pressure of blood to the lungs and heart (anthrax and influenza), lastly, in suffocation, disturbances of the circulation and diseases of the vessels of any kind.

Anæmie is known by a conspicuous pallor of the muscle of the heart; on the other hand, hyperæmie is known by a striking dark color and redness, and by a greater abundance of blood in the smaller vessels; in constitutional diseases often accompanied by ecchymosis.

Effusion of blood in the heart, with smaller or greater deposits, occurs, particularly in such diseases, during whose course violent and energetic contractions of the heart are present, as influenza, anthrax, severe colic, pericarditis, endocarditis and inflammation of the lungs. As a rule, an effusion of blood is accompanied by intense degeneration of the muscle of the heart. Another condition we designate inflammation of the muscle of the heart.

(*To be continued.*)

INFLUENZA AND THE INFECTIOUS DISEASES OF THE HORSE.

BY PROF. DIECKERHOFF.

Continued from page 263.

EPHEMERAL BRONCHO-PNEUMONIA OF THE HORSE.

In Brustseuche, it is often observed that the fever suddenly stops and that the local symptoms remain without increase. This peculiar process, called abortive, is also observed in the croupal-pneumonia of man. The precise conditions of this mode of termination are little known; some attributing it to the diminished intensity of the action of the infectious germ, while others pretend that it is due to the temperament or to the predisposition of the subjects. Old authors say that, in the abortive form of the croupal-pneumonia of man, the reduction of the temperature is not observed in odd days; modern writers, on the contrary, have observed that the period of decline may show itself at any time. "As to the period of incubation, it is as variable as the duration of the disease itself, and there are pneumonic attacks which last only from twenty-four to thirty-six hours," (Furgensen, Seitz.)

In brustseuche the inflammatory process in the lung may also cease every day, and the temperature subside in the space of twenty-four to thirty-six hours, from 40.3° to normal heat.

In the course of some epizootics, horses have been treated which were suffering with unilateral pneumonia, characterized by the general dullness, acceleration of respiration and circulation, elevation of temperature, etc. It often occurred that after two days the fever subsided, and with it all the accessory symptoms disappeared after a few days.

In 1884 Professor Dieckerhoff had an opportunity of studying an infectious pneumonia, closely resembling brustseuche, in which the fever never lasted more than a single day. He called it "pneumonia ephemera febrilis eqnorum," and reported the following cases in four horses, which in 1881 had suffered with pferdestaupe:

1st. On the 5th of September a well-bred horse, nine years old, refused to eat. He was dull, depressed and tired. Mustard frictions were immediately applied on the sides of the chest. The next day he presented the following symptoms: General sensibility; depression; general stiffness of the extremities; yellowish-red mucons membranes; dry mouth; pulsations, 48; respirations, 18 per minute; temperature, 39.9°; auscultation showed a diminution of the respiratory murmur in the lower third of the left lung. Brustsenche, under the form of pneumonia, was diagnosticated, and the patient received 100 grammes of bicarbonate of soda, 300 grammes of sulphate of soda, and an electuary of 60 grammes of gentian root.

The next day all the symptoms had diminished in intensity, and on the 8th of September the respiratory murmur had returned to its normal condition all over the lung.

2nd. September 14th a mare was taken with general symptoms similar to those of the former case. By auscultation and percussion nothing abnormal was observed. The throat was tender, and a short repeated cough was present. She received nothing but grass up to the 16th, when she seemed entirely recovered.

Two horses kept in the same stable exhibited similar symptoms, and hygienic cures were found sufficient to bring them back to a healthy condition in two days.

A similar affection made its appearance in two other stables, in animals which had previously been attacked with pferdestande or brustsenche. The same general symptoms appeared in each case, but the accessory varied with the patients, and both disappeared after from twenty-four to forty-eight hours.

As before stated, the abortive form of the disease exists equally in the brustsenche of the horse as in the croupal-pneumonia of man. It does not, however, seem quite rational to absolutely compare ephemeral pneumonia with brustsenche, because the first always assumes a very benign form, and very frequently presents itself in animals which have already suffered by the second.

Some years ago, Dieckerhoff described another form of tem-

porary disease in the horse, under the name of "febricula," or "febris irritativa."

As with ephemeral pneumonia, this new affection was contagious in its nature, and seemed to propagate itself by the absorption of an unknown miasma. It may be possible that the germs of brustseuche, by successive modification, may lose a portion of their pathogenic activity, and give rise to other infectious diseases, much less dangerous.

SCALMA.

Besides brustseuche and pferdestaupe, influenza comprehends another form of infectious disease in horses, whose mode of origin and progress or march presents peculiar characters. This disease does not affect, in a given time, all the horses of a country, as pferdestaupe, nor those of a given locality, as brustseuche. It shows itself in one stable, then in another, more or less remote, where special conditions for its development exist.

To this day this disease, as with many others, has been known in Germany as influenza. Considering its march and its pathogenomic symptoms, Dieckerhoff proposes to call it "scalma."

In the Middle Ages, "scalma," (from an old word *scalmo* or *scelmo*) meant a series of very serious and insidious affections of domestic animals. Thus in the eighteenth century, an animal was said to have died of yellow schelm, when at the post-mortem yellowish liquids were found infiltrated in the various regions of the body; in other words, when the animal had succumbed to some carbuncular disease.

Hippiatic Kuffus, in 1250, said that a horse was *scalmatus* when, after recovering from a very serious disease, he was reduced to an extremely lean condition.

In the fourteenth century, Laurentius Kusius named the same disease *scalmatura*, a name kept up in Italian veterinary medicine up to the last century.

The word *scalma* (*equorum*) has no special signification, it is true, not being like other names, taken from the necroscopical lesions found on the autopsy of animals, or from the causes, imperfectly known, which give rise to it.

When the nutrition of an organ has been deeply altered, it is said, resting on the anatomical alteration, that it has become the seat of "inflammation." But the word inflammation, or even the determination of the various degrees of the inflammatory process, will not indicate the real seriousness of the disease with which the animal is affected. Thus, the expressions pneumonia and pleurisy designate diseases of the lungs and of the pleura, some of which are benign, while others are fatal.

The danger to which the life of an animal is exposed is less inherent in the local inflammation than in the dyscrasia of the blood, or in the disturbances of the functions of the heart, and of nutrition.

Distempers, glanders, heaves, and many other diseases of horses have received their name from symptoms observed by the first authors. To-day these affections are well known, and these same symptoms, only recognized at first, have become accessory, if they are not ignored. Consequently it is not indispensable to give to every disease a name taken from the symptoms which characterize it, or by the necroscopic lesions found at the post-mortems of those that have died.

(To be continued.)

FOOT AND MOUTH DISEASE AND ITS MICROBE.

INOCULATION WITH LIQUID OF CULTURE.—ATTENUATION OF THE VIRUS.*

BY DR. INNOCENTE NOSOTTI.

The initiative of the researches made on this disease belongs to the Agricole Committee of Pavia, who, alarmed by the frequent outbreaks of that epizootic in Italy, had established a commission to study its progress and nature. Dr. Nosotti belonged to that commission, and reported the result of the investigations.

*Extracted from Researches upon the Origin and Nature of Aphtous Fever and the Means of Preventing it by Inoculation.—(*Clinica Veterinaria.*)

In a first report the commission had concluded that :

1st. The microscopic examination of the aphtous liquid obtained directly from a vesicle still intact, brought out the discovery of epidermic cells, some blood corpuscles, and numerous microbes, similar to those already discovered by Prof. Rivolta, which are alone the cause of the virulency of foot and mouth disease, and which ought to be called *micrococcus aphtosüs*.

2d. Cultures of this micro-organism have been made successfully.

3d. A great extension ought to be given to the system of inoculation as already practised by many, from Buniva down to Rossignol.

4th. Sub-cutaneous inoculations, made either with pure virus or with virus diluted in the aqueous humor of the eye, have for their result to diminish the strength of the disease.

These conclusions being presented, Dr. Nosotti states that the study of this *micrococcus aphtosus* has been made by others and by himself, and that these studies have proved that the virus of aphta is cultivatable, and probably can thus be attenuated in its effects.

While studying the nature of the virus, Dr. N. made numerous experiments in inoculation as above stated. These were all made under the skin of the dewlap, and they were followed by a benign attack of the disease, with the appearance of aphtous vesicles preceded by slight fever. These vesicles appeared on the buccal mucous membrane, were smaller than in the ordinary form, and cicatrized generally by simple resorption ; but when they ulcerated, the recovery began as soon as the skin was ruptured. It was also observed that the skin of the region where the inoculation had been made became the seat of an inflammation of phlegmonous nature, which was soon covered by numerous little aphta.

Six months later the same commission published a second report, describing the experiments of inoculation made in various localities. The virus then used was diluted in aqueous humor, and was pushed in the dewlap with a syringe of Provaz. It was hoped that by this process the affection would be localized in the

region of the dewlap and its development in its ordinary place of selection would be prevented. At first these results were obtained, but a few failures brought on a discussion between the members of the commission and Dr. Nosotti, and it is for this reason that the author published the report as merely the result of a few experiments made by him; definitive results have not yet been reached.

In order to prosecute his investigations successfully, Dr. Nosotti took all the precautions possible, providing himself with the best instruments and familiarizing himself with all that has been written on the subject of micro-organism. He first learned that the existence of the microbe of epizootic aphta had been discovered long ago, thus: Haindinger claimed that he had found in all the vesicles a kind of fungi which was the original of the fungi of rusty plants; Betti claims that this is the *oidium albicans* or *mucor albicanus* of the muguet of children or young calves; Bender found in the envelop of aphta small fungi, very small spores, and also numerous microbes; Bollinger found in these vesicles bacteridies and bacilli; and Rivolta, more careful than the others, says that the aphtous virus is composed of round microbes of very small size, the largest having a kind of central nucleus. All these observers, as Nosotti remarks, had examined impure vesicles, that is one mixed with detritus of all kinds, which soil the mouth, the udders or the interdigital space, and consequently the number of parasites which they found was not to be counted; consequently their researches could not be correct.

By avoiding their errors, Dr. N. obtained the virus from recently formed vesicles, and took it with a syringe of Pravaz, previously carefully disinfected. The liquid obtained by this method like serum, had a slightly citrine color, was viscous, had an alkaline reaction and a fresh, not unpleasant *sui generis* odor. Left in a glass tube, it becomes transformed into a mass resembling coagulated albumin, and when the glass is agitated, the liquid disappears entirely.

Comparing it with the virus taken from an old vesicle, this is found to be of a dirty white color, cloudy, with an acid reaction, with a strong and disagreeable odor. It contains impurities and

detritus, which collects at the bottom of the glass, and does not disappear when it is agitated.

Seen under a microscope, the pure liquid is found to be composed of epidermic cells, red corpuscles, white corpuscles, fat cells, protoplasmatic granulations, and numerous vibrios *micrococci*, with well marked brownian motions.

In the old virus, besides all the above, Dr. N. found numerous purulent cells, cellular organic detritus, rudimentary forms of *bacterium termo* or bacillus of putrefaction.

In using coloring tests, such as fuschine, violet of gentian, etc., Dr. N. observed that the morphological elements become more apparent and that numerous microbes could be detected, which were those of epizootic aphta. Their diameter is very small; at first sight they resemble those of chicken cholera, discovered by Pasteur. but differ from them in some points, mentioned later on.

Perfectly round, strongly reflecting light in their center, their outlines are well defined. They are generally single, seldom grouped by two, three or four, never in chapulet form. With very high power, by close observation the various steps of reproduction can be seen. Some of them have a kind of granulation which becomes more and more apparent as it grows to the dimensions of the microbe from which it arises. This microbe with granulation then assumes an elongated shape; then between the granulations and the primitive microbe, a contraction or fissure and the body assumes the shape of figure 8, which is in fact, two microbes united together by a thin membrane which soon breaks up very readily by the simple motion of the fluid. These microbes are also seen in the epidermic cells and the lencocytes.

To be certain of the parasitic nature of these microbes, Dr. N. treated them with acids, alkali, ether and iodoform. But these actions, instead of causing their disappearance, intensified their appearance, though they seem to have lost some of their energy. Mixed with the bacterides of putrefaction, they seem to experience no effect from it, and even their multiplication proceeds with scarcely any interference. They disappear only when the bacterides of putrefaction are very abundant.

Placed in proper media, the microbe of foot and mouth disease

multiplies prodigiously; its vitality is so tenacious that it multiplies also, though but slowly, when exposed to free atmospheric air.

In order to demonstrate that aphtous virus is truly the virulent agent of foot and mouth disease, numerous cultures in appropriate liquids have been made in Italy, but principally on a large scale in the laboratory of Dr. Nosotti.

From the numerous observations he has made, he believes himself justified in affirming: *that the microbes observed first by Prof. Rivolta, and better studied and for the first time cultivated by himself, represent the true point of origin of the disease of epizootic aphta, the essence and nature of the aphtous virus.*

To confirm the virulency of his cultivation, Dr. N. has inoculated adult animals and has succeeded in producing with them a benign aphtous fever.

After reporting a few experiments, probably too few to justify a thorough conclusion, Dr. N. concludes his report by declaring:

1st. That epizootic aphta is not a disease susceptible of developing itself spontaneously. It is not an indigenous, but an exotic disease.

2d. Its nature is eminently contagious.

3d. Its virulent element is represented by microbes, discovered first by Rivolta.

4th. The virus can be cultivated when placed in appropriate media, and by successive cultures reducing its virulency, it may become a safe and proper agent of inoculation.

IMMUNITY FROM CONTAGIOUS DISEASES.*

BY D. E. SALMON, D.V.M., Washington, D. C.

Although the theory of immunity which I formulated several years ago has been given a prominent place in recent discussions, it was not my intention to take any part in this philosophizing so long as my views were treated with ordinary consideration and fairness. This theory was not developed as a mere piece of speculation to while away an idle hour, nor was its object to excite

*From the *N. Y. Medical Journal*.

discussion or controversy. In the course of a long series of original investigations, in which very important facts were discovered, I was brought face to face with this question of immunity, and, in order to continue the investigations intelligently, it became necessary to have a working hypothesis which explained and connected the facts so far as known. The theory of immunity in question was the result of that necessity. It was a sincere endeavor to get at the truth with the facts at hand, and I only desire that it shall stand or fall on its merits. The tendency of working scientists has certainly been very favorable to it; no facts have been brought forward through more recent researches which oppose it, while many strongly confirm it. It does not appear to be so fortunate, however, when it comes in contact with the arguments of those who discard the facts bearing most directly on the subject, and reason from questionable premises and comparisons of doubtful application. A notable example of this may be seen in the article of Dr. J. Romaine Curtiss which appears in the issue of the *Journal* for July 18th.

Dr. Curtiss scores his first point by reversing the terms of my theory—a rather remarkable piece of carelessness when we find him stating it correctly in a quotation from Dr. Eccles, only a few sentences farther on: “The oxygen theory of Dr. Salmon,” he says, “is too narrow a conception for the occasion, and there are no verifications to sustain it. Who can imagine that tubercle bacilli in the lungs can consume the oxygen inhaled so rapidly that there is not a sufficient supply for the lungs? The inhalation of oxygen is found to do harm in consumption as well as many other diseases. If Dr. Salmon’s hypothesis is true, the inhalation of oxygen ought not only to cure, but prevent all diseases of zymotic origin.” Skipping only one sentence, we come to Dr. Eccles’ very clear statement of my theory in these words: “The poison of the microbes intoxicates the cells. Retarded function (of the cells) allows oxygen to increase in the circulation, thus facilitating their gaining a foothold. Recovery is due to the ability of the cells to resist the poison, use up their own oxygen, and so asphyxiate the microbes.”

That is to say, of these two contending parties it is not the

microbes but the cells which injure their antagonists by exhausting the oxygen supply. Consequently, an artificial increase of the oxygen supply in the tissues would simply give the microbes a better chance in their struggle for existence. The theory here is in accordance with the clinical fact stated by Dr. Curtiss, and is not opposed to it, as he would have us believe.

The next objection is that "Dr. Salmon has not made an estimate relating to the ventilation of the human body with oxygen and the relative amount consumed by the microbes and cells." Here again Dr. Curtiss reasons from a false premise. The most careful chemical investigations show that the liquids of the interior of the body contain either no free oxygen or only a trace of it. The cells of the body which obtain their oxygen from these liquids are, therefore, able to exist and perform their functions with this limited supply of oxygen. In other words, the living protoplasm seems to have such a chemical affinity for this gas that surrounding liquids are kept practically exhausted. The very recent investigations of Ehlich ("Das Sauerstoff-Bedürfniss des Organismus"), made by a new method, and apparently incontestable in their results, confirm this view and place this part of the theory upon a foundation which a wise man will not attack without mature deliberation. Equally careful studies of microbes show that their oxygen requirements are very different, and that some of them require relatively large quantities of free oxygen in order to multiply at all. So far, then, as investigations have gone in this direction, the facts discovered are in accord with my theory of immunity.

The comparison between a combat in which a dog attempts to kill and eat a man in a well-ventilated room and the contest of the microbe and the animal cell in the interior of the body, which Dr. Curtiss next introduces, is one of the most remarkable arguments which it has been my fortune to see introduced into the discussion of a scientific question. It reminds me of the arguments that, only a few years ago, were hurled by certain members of our medical profession against the whole germ theory of disease. Notwithstanding the very positive statement that "the cell and microbe and man and dog present problems of warfare

the terms of which are parallel and alike," I cannot restrain an equally positive assertion that the comparison is chiefly remarkable for being far-fetched and having no application to the question. There is nothing "parallel and alike" either in the means of attack and resistance or in the conditions under which the two contests are maintained.

Although Dr. Curtiss thinks that the part of my theory which admits recovery to be due to the ability of the cell to resist the poison excreted by the microbe is correct, he does not appear to free his mind from the belief that the contest is, after all, a physical one, and that it consists in the attempt of each to "swallow" the other. That a free, wandering, or amœbid cell might easily "swallow" or take into its interior a microbe, as supposed by Metschnikoff, is freely granted; but that the terms of this proposition can be reversed, and that a microbe with a smooth, rounded body, without external organs of any kind, without an opening in its body to take in its food, without the power of locomotion in the most restricted sense, should make a physical attack upon and "swallow" a cell, requires a free use of one's imagination.

But why does Dr. Curtiss insist that the combat between the man and the dog should be a "well-ventilated" room in order to be parallel with a combat between a microbe and a cell in the interior of the body? Does not the most superficial knowledge of anatomy and physiology make it apparent that the interior of the body is not well ventilated, that a contest there, instead of being in the open air, is under liquid, and under a liquid which itself is not in contact with the air, and from which the cells of the body are continually drawing the oxygen necessary for their existence? Then, again, the oxygen requirements of the man and dog are substantially the same, and any exhaustion of this element would affect each alike. On the other hand, the oxygen requirements of microbes are very different among different species, some of them requiring an abundant supply, and as a consequence, a large proportion of these species must have requirements different from the cells of the body.

To make the comparison at all parallel and applicable, it would be necessary to assume that the room in which the man is

located is a close one, that he is able to live in an atmosphere that would immediately place the dog *hors de combat*. We must also assume that the dog, even in this partially asphyxiated condition, continues to live and exhales a poison which would gradually accumulate and overcome the man unless its production was so slow that the man would become inured to it before it had been produced in sufficient quantities to overpower him. In the former case we might suppose that the slight ventilation of the room and the smaller amount of oxygen used by the man would in time place the dog in a condition to make an attack. And here, after all our attempts to make the conditions parallel, we fail miserably, for the dog's attack must be essentially a physical one, while the microbe's attack partakes but slightly, if at all, of that character.

Of what use, then, is such a comparison for the elucidation of this nature? Surely any conclusions drawn from it must be unsafe, misleading, or diametrically opposed to the truth.

"It is evident," says the learned doctor, "that we can substitute nitrogen or bile in the place of the oxygen of this problem, and do no violence to the sense or the results." Here, again, the conclusion seems to be most hasty and without that consideration which we should expect in discussing a question of this importance. A moment's thought would have convinced our able critic that, if the multiplication of microbes is to be prevented by withdrawing an element from the liquid in which they exist, it is a necessary condition of the case that the element should be one *essential* to the growth and multiplication of the germs. As a matter of fact, neither free nitrogen nor bile is essential to such growth and multiplication. The germs of various contagious diseases can be and have been cultivated where neither nitrogen nor bile exists; but all microbes that have been carefully studied and which produce diseases that are followed by immunity, so far as I have been able to learn, require a certain amount of free oxygen.

Finally we are told: "Dr. Salmon admits the solution of the question by natural selection when he says the 'recovery is due to the ability of the cells to resist the poison.' Immunity is also due to the same fact. The oxygen theory is, therefore, only a rider to the true solution—very much such a rider, too, as Mazeppa

was, in so far as ability to guide the horse is concerned." If Dr. Curtiss will consent to lay aside his dogmatic assertions for a moment and consider the, to him, apparently dry and uninteresting facts of the problem, I may once more be able to show how far astray even a philosopher may be led by trusting to a too superficial glance of a subject. Take the disease known as fowl cholera for example. The germs of this disease multiply so rapidly outside of the body that gallons of any nutritious liquid in which they are placed would be swarming with them within thirty-six hours. Still, inoculate a susceptible chicken weighing not over a pound, and it will be four to six days before the first signs of the disease appear. In other words, although the germs have found their way into the nutritive liquids of a susceptible organism, their multiplication has been checked in a remarkable manner by the influence of the body protoplasm. If a sufficiently small quantity of the virus is used for the inoculation, the microbes are unable to multiply in the body at large, even after the period of incubation has passed, but their multiplication is confined to the locality in which they are introduced. Again, if the number of microbes introduced into the tissues is sufficiently small, say twenty-five or fifty, there is apparently no multiplication at all; the bird does not contract the disease, nor are there any signs of local irritation, although the cells have never before been subjected to the influence of the poison, and consequently have not acquired in that way any ability to resist it. Take one more fact; the germs of a contagious disease are unable to multiply in the liquids of an animal that has acquired insusceptibility, although they are placed directly within the blood or lymph channels.

These phenomena are all of the same nature, and they demonstrate, each in its way, the same fact—viz., that the protoplasm of the living body has a means of combating microbes which is not physical, and that it exerts this influence over the fluid which surrounds it to a considerable distance beyond the layer that is in actual contact with it.

These facts are evidently very intimately connected with the question of immunity, and any theory which attempts to explain immunity must not only show how the cells acquire the power to

endue and recover from the effects of the poison excreted by the microbes, but it must also explain why the multiplication of these micro-organisms ceases and becomes impossible even in the liquids of the body, and where they are not in actual contact with the cells. The tissues are, as we know, penetrated by channels some of which contain blood and others lymph, and there are everywhere spaces between the cells filled with a nutritive liquid which sustains the life of these minute constituents of the body. These channels and spaces, compared with the size of the microbes, are simply enormous, and, without the part of my theory relating to the oxygen supply, we can no more understand how the cells (in their walls) can prevent the multiplication of the microbes in the liquids flowing between them than we can conceive of the trees on a river's bank preventing the multiplication of the fish in its waters. There are only two conceivable explanations of the phenomenon; one is, that the cells excrete something injurious to the microbes, and the other is, that the cells withdraw something essential to the microbe's growth. The former is untenable, because the liquids which are unsuitable to the microbe's growth when within the body of the insusceptible animal become very favorable for its growth when removed from the influence of the living protoplasm. Evidently, then, they do not contain any injurious principle. Turning to the other explanation, we must admit for the same reason that whatever is abstracted by the cells must be something that can be supplied by contact with the atmosphere. Now, is there any other element than oxygen which can be supplied by the atmosphere and at the same time is so essential to the multiplication of the microbes?

From the facts I have mentioned, and from many others which I have neither the time nor the space to enumerate, it has seemed to me that when the cells are exercising their functions in a normal manner, they have such an affinity for oxygen that this gas is completely removed from the liquids in the interior of the body; and, consequently, microbes which require oxygen can multiply only when sufficient poison is introduced with them, or when they are present in sufficient number to produce enough poison to depress the activity of the cells and prevent them from so completely taking up the oxygen. This theory may be wrong,

but it certainly explains facts which have not been explained in any other way; and, if it is to be overthrown, I presume this will be accomplished by bringing forward some facts with which it cannot be reconciled and by developing a different theory which, while it explains the new facts, will not contradict the old ones.

It seems unnecessary for me to answer the charge that my theory is too narrow, for Dr. Curtiss no sooner makes it than he sets himself about whittling down even this narrow theory, and soon asserts that a part of it—the part which assumes the acquired ability of the cells to resist the poison—is all that there is to the whole question of immunity. The inconsistency of this part of his argument is too apparent to need any criticism.

Now a final word as to the utility of the studies of immunity, and I hope I shall be permitted to withdraw from the discussion. I shall not attempt to conceal my astonishment that a professor of hygiene can be found in this country who deliberately writes that “the study of physically acquired immunity from disease is interesting only as a means or end of scientific accomplishment, and is of no great practical value. . . . Why not destroy the microbe before it attacks the man, and gain the immunity by this means? . . . Immunity from disease gained by costly combat with poisonous microbes is the method of nature without intelligence. The method is not worth imitation except provisionally.” That is to say, vaccination for the prevention of small-pox, the method of all others which is relied upon in every civilized country to hold this disease in check, “is of no great practical value, and is not worth imitation except provisionally.” How is it, I would like to ask, that we still rely upon vaccination to prevent small-pox if it could be so easily combated by destroying the microbe before it attacked the man? Why is it that we at the present day, in the United States, are losing every year 20,000 human lives from scarlet fever, 45,000 from diphtheria, 14,000 from whooping-cough, 11,000 from measles, and 120,000 from tuberculosis, and all of these germ diseases? Is it not because the destruction of the germ before it attacks the man has been found impracticable and, in the present state of society, impossible?

The prevention of small-pox by vaccination has been a grand and wonderful success—it is the one solitary success to which the medical profession can point with pride in its long struggle with the indigenous, contagious diseases. And this we are told is not worth imitation, because it is the blind method of nature. What is there so terrible in gaining immunity through actual disease as is practiced on so large a scale in this same vaccination? And who dare predict at this time that we shall not, in a few years, have the virus of the greater part of the contagious diseases so mitigated that their effects will be as mild as those of vaccine lymph?

There is another possibility even more desirable than this. We have seen that immunity is acquired by the cells becoming accustomed to the action of a certain poison excreted by the disease germ. Suppose, as the result of such studies, the chemist of the future is able to separate this substance from the germs and supply it, as quinine is now supplied, in a condition of purity. And suppose, as is very likely, that the introduction of this substance into the tissues would confer as complete an immunity as occurs when it is produced there by the germs, would this not be a solution of the question worthy of many years' investigation?

Until we succeed better than we have in the past in destroying the germ before it attacks the man, let us not insist upon this method to the exclusion of all others, at least so long as over two hundred thousand of our population annually testify by the sacrifice of their lives to the insufficiency of this method.

EXPERIMENT L PATHOLOGY.

(Extracts from the *Revue des Sciences Médicales*.)

EXPERIMENTAL RESEARCHES ON CICATRIZATION IN BLOOD VESSELS AFTER LIGATURE.

By N. SENN.

After considering the entire history of ligation from the clinico and anatomo-pathological point of view, the author reports numerous experiments undertaken to confirm the facts already obtained to determine the mode of cicatrization of ligated blood vessels. His conclusions are as follows:

1st. All operations on blood vessels ought to be accompanied by every known antiseptic precaution.

2d. The catgut antiseptic ligature is the safest of all the means in use for the occlusion of blood vessels.

3d. The clot which is formed after the application of the ligature has no active agency in the obliteration of the blood vessel.

4th. The cicatrization is due to the proliferation of the connective tissue and of the endothelium.

5th. The period of permanent obliteration for arteries is from the fourth to the seventh day, and for veins, from the third to the fourth.

6th. Double aseptic ligation is preferable to single for large arteries, when applied near to collateral divisions, and must always be employed in a case of varicose veins.

GANGRENOUS SEPTICÆMIA.

By MR. CHAUVEAU.

The author, in answering objections made to a former communication, says that in his view the agent of gangrenous septicæmia is no other than the *septic vibrio* of Pasteur. This is the most perfect of the anerobic microbes, and from this results the necessity of cultivating it apart from the atmospheric air. It is an error to accuse Mr. C. of overlooking or ignoring the nature of the liquids which serve as vehicles. For if one takes from a donkey or a sheep which has died from an intra-vascular injection of gangrenous septicæmic virus, a drop of pericardial or pleural serosity, and with this inoculates a guinea pig, this animal will die of gangrenous septicæmia. But if the same serosity has first been filtered and deprived of its corpuscular parts, with its cellular and morbid elements the inoculation does not prove fatal.

It is from the portal vein of an animal dead for some time that the blood containing the septic vibrio must be taken. The lesions produced by this blood are the same with those which follow the subcutaneous inoculation of infectious serosities taken from a man who has died from rapid gangrene. And again, there is no dif-

ference between the microbes of animals and of man. The identity of the nature of the diseases cannot be denied.

The fact that the septic vibrio belongs to the anerobic microbes explains why it cannot be inoculated by sub-epidermic puncture, but by *subcutaneous*; as a sub-epidermic inoculation, by bringing them nearer to the atmospheric air, places them in the best condition to prevent their development. The same reason explains why the virus is innocuous when applied to the open surface of granulating wounds, unless there may exist some part protected from the air where the microbe may find a spot favorable to its cultivation.

It is also because of the contained oxygen in the blood that it is not virulent, *during life*, in gangrenous animals. And the same reason explains the relative innocuousness of the virus into veins and the enormous doses which are necessary to kill even small animals. And finally, the action of the air is never favorable to the activity of filtrated serosities.

In reference to the question of prophylaxy, immunity may be secured by the intra-venous injection of the veins. This is a method of which the author stands ready to prove the efficacy and certainty.

PASSAGE OF THE PATHOGENIC MICROBES FROM THE MOTHER TO THE FŒTUS.

By M. KOUBASSOF.

The author has made examinations of the organs of the fœtus, in search of the bacterias with which the mother had been inoculated. Having hardened the tissues, he made sections, which he colored both by the simple and double method. Five observations thus made have resulted in finding seventeen fœtuses in which the liver, spleen, kidneys, heart and brain have always, and without exception, contained the bacillus of anthrax. Ordinarily the bacteridies were found outside the blood vessels, and in groups of from three to nine little rods. More rarely they were found isolated. The bacteridies have also been observed, by cultures and microscopic examinations, in the placenta, in the amniotic fluid, in the peritoneum and in other liquids of the fœtal body.

NEW COMPARATIVE EXPERIMENTS IN THE COMMUNICABILITY
OF THE SCROFULA AND TUBERCULOSIS OF MAN TO THE
RABBIT AND GUINEA PIG.

By M. S. ARLOING.

Mr. Arloing describes several experiments in the inoculation of rabbits and guinea pigs with strumous ganglion of man. The ganglion, caseous in its center, removed the same morning from a serofulous child, was reduced to pulp and the liquid obtained inoculated under the skin of ten rabbits and ten guinea pigs (two drops for each). Two months later, all the guinea pigs, which had died or were killed during that time, presented hypertrophied and caseous ganglions and tubercles, in the spleen and in the lungs. The ten rabbits continued free from any lesions of either visceral or ganglionic tuberculizations.

In another experiment, the inoculation was made in the peritoneum, with the liquid of a ganglion taken on the same day (two drops to each as before). The result was the same. All the guinea pigs exhibited hypertrophy of the ganglions; the rabbits were unaffected.

These results seem to justify the distinction established by clinical observation. Are there two different kinds of virus? Is serofula the result of an attenuated and modified virus? The investigations of the author are still in progress.

REPORTS OF CASES.

AN OUTBREAK OF GLANDERS IN NEW JERSEY.

By DR. A. LIAUTARD, V.S.

Mr. K—— is a well-to-do farmer, who keeps three horses in his stable, his equine family consisting of a bay mare, Flora, quite valuable; a bay horse, Charley, eight years old; and an old mare, Jenny, aged twenty-eight. Last March he bought from Mr. J——, a well-known horse dealer, a pair of geldings five or six years old, which had recently been brought from Canada. These two horses were placed in the same stable with the others, where they occupied stalls side by side, their stalls being situated

between those of Charley and Jenny. At the time of purchase the off new horse (Ned) was running at the nose, but this was thought to be only the effect of a simple cold. Shortly after a fullness began to appear in the maxillary space, though otherwise he seemed perfectly well. The other horse (Bill) when bought, was said to have been very stiff and sore all over his legs.

In June, the bay horse, Charley, had a swelling of the legs, and lumps appeared at various points about the body, and in July he began to run freely at the nose.

In September, the horse Bill had a swelling of the glands of the jaw and began to run at the nose also.

It was then that Mr. Blaker, a student of veterinary medicine, was called in, and he advised that the State Board of Health be notified of the fact, which resulted in a request to Dr. A. S. Leatherman of Clinton, N. Y., to examine the entire stock, and to report. Dr. Leatherman condemned all the animals except the mare Julia, and quarantined the place.

The dealer then asked for an inspection by an expert, and Dr. Liautard was sent for. A confirmation of the diagnosis made by the State Inspector was the result of his visit. The animals were found in the following condition :

The horse *Ned* had the characteristic discharge, ulcers and glands of chronic glanders.

Bill suffered from an enlargement of the maxillary glands, with slatey coloration of the mucous membrane of the nose, and farcinous buds round the neck.

Jenny had fine ulcers under the left false nostrils, and a large chancre on the right side of the septum, the mucous membrane of which was infiltrated and glassy in appearance.

Charley seemed to be the most affected. The glands were of enormous size ; the discharge of the nostrils was very abundant and characteristic, and both sides of the septum were covered with chancres of chronic glanders.

Flora, so far, showed no symptoms of the disease. She seemed to be perfectly healthy and was left by herself in quarantine, while the other four animals were condemned to be destroyed.

During the month of September, Dr. A. S. Leatherman condemned in the same vicinity two other horses, situated ten miles apart, both of which were brought from Canada by the same dealer, and belonged to the same drove with the horses Ned and Bill. They had all traveled in the same car.

There is no difficulty in tracing the infection of the horses of Mr. K——, but for Ned and Bill and the two others, destroyed by Dr. Leatherman, the question may be asked, whether they did not become infected through the bad condition of the truck in which they were imported?

IRREGULAR WEARING IN THE MOLARS OF A HORSE.—NECROSIS OF THE PALATE BONE.

Description of a Specimen presented by B. McINNESS, Jr., V.S., to the Museum of the American Veterinary College. By J. SCHRIEBLER, D.V.S., Curator of the Museum.

The preparation exhibited was the head of an old horse which had been the property of an aged South Carolina negro. When death occurred the horse had become so emaciated that his appearance was almost like that of an animal which had died of starvation. The condition of the teeth to a great extent explained this fact, and showed the difficulty the animal must have experienced in masticating his fodder. The molars of the left side on both jaws were about normal, but those of the right presented a very peculiar aspect, due to an irregularity in the wearing process, which, instead of taking place flatwise, had affected the teeth in their length. Those of the upper jaw were worn from above downwards, and from the inner side outwards, in such a manner that while the outer surface of the teeth measures over two inches, the inner surfaces measures scarcely half an inch, this being about the normal length of the teeth. This irregularity is perfectly smooth on the inner surface for the first four molars, but irregular on the fifth, which is angular. These teeth and the last have undergone less wearing. On the same jaw the palate bone was already undergoing necrosis, and showed in the center a perforated appearance and a depression towards the back. This condition of the palate bone is due to the action of the molars of the lower jaw.

In that region the left molars are also healthy, but on the right side the first, second and third have undergone a process of wearing corresponding to that of the upper jaw, but in an inverse direction. The third one, which has a length of nearly two and a half inches, has produced the depression in the palate. The fourth, fifth and sixth molars are missing in the specimen. It is probable that the fourth was lost in preparing the head, but there is no doubt that the fifth and sixth were lost during life, as can be seen by the wearing out of the outside surface of the alveolar cavities, and their almost complete disappearance. This is the second case of this kind that has come under our observation. The first, however, was more complete, as the irregularity of the teeth existed on both sides and on both jaws. When the animal died, all the teeth were not only found on both sides of both jaws, but the animal presented also an abnormality in the number of teeth, having 28 instead of 24 molars. This irregular condition of the teeth furnishes a ready explanation of the difficulty of mastication, and can scarcely be relieved, except by bestowing a degree of attention to the organs which it is not yet usual to bestow on animals.

EXTRACTS FROM FOREIGN JOURNALS.

SLOUGHING OF THE PHALANGES OF A MULE FOLLOWING A PUNCTURED WOUND RECEIVED IN SHOEING.

BY MR. BARRIER.

A mule was carelessly pricked while being shod, and the nail was pulled off, and a few drops of oil of turpentine poured into the wound. The next day the animal was very lame, but he received no special attention until the seventh day, when the pus was found to have made its way between the hair and hoof. Directions were then given to have the shoe removed and the foot dressed.

The owner, who cared only to be paid for the damages produced by the blacksmith, neglected the order he had received, and the poor animal was left alone to his sufferings. Twelve days later the leg had become enormously swollen to the elbow; the hoof had altogether sloughed away, and the lower part of the

foot formed a large, ugly looking wound, covered with maggots and with a very repulsive odor; still, large healthy granulations covered the stump of the leg. An order was given to the owner to have the poor brute destroyed; an order which he again refused to carry out. Six weeks afterwards the animal was seen in apparently perfect health; the three phalanges were gone, but the stump remained almost in its entirety, and healed. The animal walked slowly without evincing much pain, but was lame on three legs when made to trot. He was at length destroyed. Two months had nearly elapsed from the day on which he was pricked to that on which he was killed.—*Recueil de Medecine Veterinaire*.

ENCEPHALOID CARCINOMA.—DEATH.

BY MR. TRASBOT.

This horse had an encephaloid carcinoma of one testicle, for which he had been operated upon. The operation had been successful, and everything in his condition seemed to indicate a rapid recovery. Instead of this, however, a febrile condition seemed to show itself on the following day, and general symptoms of an internal affection became manifest. The suspicion of general carcinomatous infection was entertained, and in twenty-four hours, confirmed beyond the reach of a doubt. A firm, indolent, diffuse and incompletely defined tumor, round in shape, soon made its appearance in the right flank. Rectal exploration gave the sensation in the sub-lumbar region of an enormous mass, bosselated, extending forward beyond the reach of the hand, and backwards beyond the bifurcation of the aorta. During the following days the symptoms became aggravated, and after four days of suffering the animal was destroyed—fourteen days after the first operation. At the autopsy, the wound of castration, though partly healed, had, nevertheless, a bad appearance. The pleural cavity was about normal. Between the layers of the anterior mediastinum was a group of tumors, of various sizes, weighing over five pounds (2 kilogrammes, 600 grammes). In the abdomen there was an enormous neoplasm of the same nature and aspect, and weighing twenty-six pounds (13 kilogrammes). These two masses

were easily separated into smaller ones. Some of them are of older origin; were hard, greyish in color, and on section, showed a white, milky, abundant fluid, while others were more friable, milky, of a uniform rosy color, with here and there a hemorrhagic centre and are evidently of new formation.

Evidently, the first operation had stimulated a more rapid development in all these previously indolent, internal tumors.—*Recueil de Medecine Veterinaire*.

BILIARY CALCULUS.—RUPTURE OF THE GALL BLADDER.

By M. CAGNY.

An ox was taken ill, and treated for indigestion of the third stomach, presenting no remarkable symptoms, and dying in a few hours. The post-mortem revealed lesions of the most acute attack of peritonitis, with an effusion of bloody serosity, mixed with bile. The peritoneum had assumed the color of bile. The gall bladder was torn through its serous and muscular coats, the mucus membrane being yet intact. In the narrow portion of the sac, however, there was a laceration, three inches in length, through which the bile had escaped. The calculus was found at the extremity of the ductus communis choledochus, near the intestinal opening. It was roughened at one extremity, probably by the contact of the food. In weight it was about two grammes and nearly one and a half inches in length.—*Recueil de Medecine Veterinaire*.

HERNIA OF CASTRATION.—WOUND OF THE INTESTINE, WITH LOSS OF SUBSTANCE.—RECOVERY.

By M. COLLINS.

The patient was a newly purchased three-year-old colt, which had been castrated a few days previously to his change of ownership. The day following the purchase his owner discovered that a mass of fecal matter had escaped through the wound of castration. When seen by the author he seemed but little uneasiness, but showed no evidence of pain. He was gay; his appetite was good and his pulse and respiration normal. He would occasionally exhibit some movements more or less violent, and a certain quantity of alimentary mass was still escaping through the

wound in the scrotum. There was perforation of the small intestine, and intestinal fistula. Finding that no thorough examination could be made without throwing the animal, and fearing the consequences of such manipulation, he was left alone, with directions to keep him quiet, and to feed him lightly on soft food. The prognosis however, was of course, very serious. No change in the condition of the animal seemed to take place, until two weeks later, when the fistula was found to be entirely dry, and the wound of the scrotum almost entirely closed. The animal had been castrated by the process of covered testicles.—*Journal de Zootechnie*.

INCOMPLETE FRACTURE OF THE TIBIA.

BY M. LECOT.

A seven-year-old mare received from another horse a violent kick while being turned out. From that moment she refused to move, and when compelled to do so, betrayed great lameness on the right hind leg. The next day the lameness was still well marked. The foot did not rest on the ground, and she was evidently troubled with a sort of lancinating pains, with symptoms of a high febrile condition. When compelled to move, she walked on three legs. On examining the leg, a small wound and depilation were found a little below and forward of the region of the patella. The inner side of the tibial region was the seat of swelling, and painful on pressure. No other symptoms appeared. It was evidently a split, or incomplete fracture of the tibia. The treatment consisted in complete rest and easily digestible food, blistering over the injured region, and antipyretic medicines. Three weeks afterwards the animal rested her foot on the ground, and after six weeks carried weight on the leg without difficulty.—*Annales de Brussels*.

CASE OF POLYURIA FOLLOWING TRAUMATISM OF THE LIVER.

BY MR. BENJAMIN.

A mare recovering from an attack of pneumonia, was kicked in the left flank by another horse. The next day she was very dull, and on the third day following, polyuria showed themselves.

These symptoms continued to increase until death, which took place two months after. At the post-mortem the lungs were found healthy, but abundant lesions appeared in the abdomen. The liver had its normal color and consistency in the right and middle lobes, but the left lobe had the hue of a dead leaf, and from its middle to its lower border was easily torn, and looked as it would have done if cooked. Towards the most dependent part of the border, it was considerably thickened and presented a tumor of the size of two fists, adherent to the posterior face of the diaphragm and to the surrounding peritoneum. This tumor, when opened, proved to be an abscess lined with a pyogenic membrane, and containing white creamy pus. The kidneys were pale, the pelvis and tubuli showing here and there a desquamation of the epitheliums. The bladder was somewhat injected, and the small quantity of urine it contained was cloudy and thick, without reaction with nitric acid, and without a trace of sugar. Death was evidently due to the polyuria and the suppurative hepatitis, which was undoubtedly, of traumatic origin.—*Journal des Sociétés Scientifique.*

INVITATION

TO VETERINARIANS TO THE CONVENTION OF CATTLE
GROWERS OF THE UNITED STATES.

OFFICE OF TERRITORIAL VETERINARIAN, }
CHEYENNE, WYO., Sept. 30, 1885. }

To State Veterinarians and Members of Sanitary Boards.

GENTLEMEN:—The National Convention of the Cattle Growers of the United States will be held in Chicago, Ill., Nov. 17th, 18th and 19th, 1885, and the most important subject for consideration will be "Contagious Diseases of Domestic Animals," and the methods to be employed for their eradication and prevention.

This convention will be composed of men of ability, character and influence, and the expressions of these gentlemen will have

great weight in shaping future legislation in this matter ; therefore, I believe that there should be a meeting of the State Veterinarians and Sanitary Boards of the different States, who are conversant with the pathology of the various plagues (hog cholera, Texas fever, contagious pleuro-pneumonia and glanders) which at present afflict the domestic animals in many parts of the United States, and after a full discussion of the vagaries of contagion and the means by which these plagues are spread, make a report to the convention, demonstrating to them the nature and peculiar characteristics of these plagues, the manner of their spread, and all the means necessary to eradicate or control them.

Owing to the conflicting sanitary regulations of the different States, the cattle traffic during the past year suffered much embarrassment, and entailed on shippers heavy losses ; hence the necessity for an intelligent discussion of this matter by the State Veterinarians and Sanitary Boards, which may serve to remove many of the obstructions to commerce, by the adoption of a uniform sanitary code.

Believing that the best interests of our profession will be served, and that the people engaged in the transportation of stock will be benefitted by such meeting, I most earnestly urge you to attend at Grand Pacific Hotel, Chicago, Ill., November 16th and 17th, 1885.

JAS. D. HOPKINS, *Territorial Veterinarian.*

VETERINARIANS IN OFFICIAL POSITIONS.

LIST OF STATE AND TERRITORIAL VETERINARIANS.

GRADUATE OF

V. T. Atkinson—Wisconsin.....	Ontario Veterinary College.
J. Gerth, Jr—Nebraska.....	American Veterinary College.
J. S. Butler—Ohio.....	Ontario Veterinary College.
N. H. Paaren—Illinois.....	
J. D. Hopkins—Wyoming Territory.....	American Veterinary College.
G. C. Faville—Colorado.....	Iowa Agricultural College.
A. A. Holcombe—Kansas.....	American Veterinary College.
T. Bridge—Pennsylvania.....	
F. E. Rice—Connecticut.....	Royal College, England.
James Law—New York.....	Royal College, England.
Robert Ward—Maryland.....	Royal College, England.
Paul Paquin—Missouri.....	Montreal Veterinary College.
M. Stalker—Iowa.....	Ontario Veterinary College.
G. Keefer—Montana.....	American Veterinary College.
J. F. Winchester—Massachusetts.....	American Veterinary College.

VETERINARIANS EMPLOYED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. (BUREAU OF ANIMAL INDUSTRY).

	GRADUATE OF
D. E. Salmon.....	Cornell University.
F. L. Kilborne..	Cornell University.
A. M. Farrington.....	Cornell University.
W. B. E. Miller.....	American Veterinary College.
H. W. Rowland.....	Columbia Veterinary College.
T. J. Herr.....	American Veterinary College.
J. W. Hawk.....	Columbia Veterinary College.
C. K. Dyer.....	Place of graduation not known.
W. H. Rose.....	American Veterinary College.
A. H. Rose.....	American Veterinary College.
Wm. H. Wray.....	American Veterinary College.
W. B. Rowland.....	American Veterinary College.
J. R. McLaughlin.....	Montreal Veterinary College.
M. R. Trumbower.....	Late student at the American Veterinary College.
L. M. McLean.....	Royal College V. S., England.
C. B. Michener.....	American Veterinary College.
J. Gerth, Jr.....	American Veterinary College.

REVIEW.

VETERINARY PHARMACOLOGY AND THERAPEUTICS. BY J. B. GRESSWELL, M.R.C.V.S.

Under this title the author offers his work to the veterinary profession to fill what he calls a great need of an "Extra Veterinary Pharmacology and Therapeutics." It consists of a little over 200 pages. 179 of which are devoted to brief notices in therapeutics, including quite a large number of good prescriptions. The remaining portion contains an index of diseases, with the indication of the drugs required in their treatment. Though perhaps somewhat too concisely constructed, this little work must prove itself frequently useful for purposes of reference, to both student and practitioner.

HORSE'S TEETH. BY W. H. CLARKE. THIRD EDITION, REVISED.

The success achieved by this excellent compilation is sufficient evidence of its quality. The second edition, which has had an unusually rapid sale, has been revised and improved, and "Horse's Teeth" is now presented as one of the most complete among the works on this subject. Mr. Clarke, although not a veterinarian, has collected in this work a large number of cases of great inter-

est to practitioners, and these, with the various other frequent chapters have made the book a very worthy acquisition to veterinary literature.

Both of these books are sold by W. R. Jenkins, 850 Sixth Av., N. Y.

CORRESPONDENCE.

CLEVELAND, O., Oct. 12, 1885.

Prof. A. Liautard, V.S., New York City:

DEAR SIR—At a meeting of the Ohio State Veterinary Medical Association resolutions were passed instructing us to write the different veterinary colleges, with a view of having their views on the three following questions:

1st. That the applicant for admission be required to pass a matriculatory examination in reading, spelling, writing, grammar, arithmetic and possess a good common school education.

2d. That the term of study shall be increased from two terms, as it now is, to three.

3d. That such student shall be required to devote the intervening summer months under some qualified veterinary surgeon.

I desire to have your views on the above subject in full, in order that I may present a full report to our Association at its next regular meeting, which takes place second Tuesday in January, 1886, at Mt. Vernon, Ohio, at which time we will be pleased to have you with us.

Yours truly,

W. C. FAIR, *Cor. Secretary.*

TO VETERINARY SURGEONS.

The subscriber desires situation with a good veterinary surgeon, with a view to studying the veterinary art—wages no object—with a thoroughly practical surgeon.

GEORGE H. GOULD,
DeKalb, DeKalb County, Ills.

ARMY INTELLIGENCE.

By the resignation of Dr. Wogt, lately of the 8th Regiment of Cavalry, the position of senior and junior veterinary surgeon to that regiment is vacant. The pay of the senior is \$100 and of the junior \$75 per month.

SOCIETY MEETINGS.

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular monthly meeting of the Massachusetts Veterinary Association was held at 19 Boylston Place, Boston, Wednesday evening, September 2, 1885.

Dr. F. S. Billings presided, and there were present Drs. Blackwood, Bryden, Bunker, Byrne, Harrison, Howard, Osgood, Peters, Skally, Winechester, Winslow; also as visitors, A. Marshall, M.R.C.V.S., of Glasgow; Mr. Webber and Mr. Allen of Boston.

After the minutes of the previous meeting had been read and accepted, Dr. Bunker moved that all further business be suspended until after the reading and discussion of the paper. Motion carried.

Dr. Austin Peters then read a paper, having for its title "An American Veterinarian's Impressions of the Profession in England." The essayist, a graduate of the American Veterinary College, supplemented his course of study at this institution with a year's study at the Royal College, London, having conferred upon him the degree of Member of the Royal College of Veterinary Surgeons. Later he visited the different veterinary institutions of England, and also some of those in France and Germany.

His descriptions of the different institutions, their buildings, grounds, museums, etc., his interviews with their professors, and his experiments both with students and general practitioners were very entertaining.

None the less interesting were his criticisms of the course of study pursued at some of the schools, of their pupilage system, the granting of Fellowship degrees, etc., etc., all together forming a novel and interesting paper. At its conclusion a unanimous vote of thanks was tendered the essayist.

A quorum of the Executive Committee not being present, Dr. Osgood was appointed a member *pro tem*.

On motion of Dr. Winchester it was voted that the Chair appoint three members who shall constitute a delegation to represent this Association at the annual meeting of the United States Veterinary Medical Association, to be held in New York City, September 15th. The Chair appointed as that committee, Drs. Bunker, Osgood and Howard.

Dr. Bryden was appointed essayist for the next meeting, and announced as his subject, "The Horse's Foot."

Dr. Bunker moved that a committee of three be appointed by the Chair to revise the constitution. Motion carried, and the Chair appointed as that committee, Drs. Bunker, Skally and Peters.

Dr. Bryden proposed for membership Alexander Marshall, M.R.C.V.S. The Executive Committee reported favorably as to his credentials.

Dr. Bryden moved that the Secretary of the Association be authorized to subscribe for the standard English veterinary journals. Motion carried.

No other business coming before the meeting it was adjourned.

The October meeting was held at the same place, Wednesday evening, October 7th.

In the absence of President and Vice-President, Dr. Osgood of Springfield was appointed chairman *pro tem.*, and there were present, Drs. Bryden, Bunker Howard, Osgood, Peters, Penniman, Simmons, Marshall, Skally and Winchester; also as invited guests, Dr. J. H. Stickney and Mr. Webber, of Boston.

Minutes of previous meeting were read and accepted.

The Executive Committee reported approval of credentials of Geo. Penniman, D.V.S., of Worcester, and he, together with Alexander Marshall, M.R.C.V.S., of Brookline, were unanimously elected to membership.

The committee appointed to revise the constitution reported progress, with the probability of an extended report at the November meeting.

The delegation to the meeting of the United States Veterinary Medical Association reported as having taken a part in its proceedings, which were of considerable interest, and also that they inspected the operating table of Messrs. Hodgson and McGee, by invitation of the Association in session.

This table and method of operating it were described at length by Drs. Bunker and Howard.

A communication from F. S. Thomas, A.M.V.S., of Hanson, was read, saying that he had never been able to attend any of the meetings, and offering his resignation as a member. By vote it was accepted.

The resignation of R. H. Harrison, D.V.S., was presented, and accepted by a unanimous vote.

Dr. Bryden then read a paper on "The Horse's Foot." The paper, and the discussion which followed its reading were extremely interesting, the point of heredity, as a modifying influence in the development of the animal, receiving particular attention in the discussion. At its conclusion a unanimous vote of thanks was tendered the essayist.

The discussion of the subject of Dr. Bryden's paper having gradually led up to that of spavin and exostoses in general, Dr. A. Marshall was asked to favor the next meeting with a paper on that subject.

By vote of the meeting, the visitors present were invited to attend subsequent meetings.

The secretary reported that Dr. A. Liautard, editor of the AMERICAN VETERINARY REVIEW, had kindly placed the Association on the free list of subscribers to his journal. By a unanimous vote the Secretary was ordered to tender Dr. Liautard the thanks of the Association.

No other business coming before the meeting, it was adjourned.

L. H. HOWARD, *Secretary.*

THE KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The October meeting of the Keystone Veterinary Medical Association assembled in response to directions sent out by the Secretary, at 1526 Race street, Philadelphia, October 15th, at 8 p.m. The regular night of meeting having been changed at the last meeting, but no notice of such change being given the Secretary, the call was given under the old by-law.

Members present, Drs. Rodgers, Zuill, Hoskins, Glass, Weber and Goentner.

Minutes were read by Dr. Glass, secretary *pro tem.* of last meeting and approved.

Dr. Zuill, as Committee of Publication, reported that he had forwarded Dr. Rodgers' essay on "Milk" to Mr. Jenkins of New York, who did not think it advisable to publish it in book form, but would do so if the Society would pay the compositor, which would cost about sixty-four dollars. He, Jenkins, advised the publishing of the manuscript in the *REVIEW* or *Comparative Journal*, and preserving the electrotypes. Committee continued, to report at next meeting.

Committee on Pharmacopia had no report to make.

Treasurer's report was laid over until next meeting.

Dr. Zuill moved that the Secretary inform all delinquent members of their arrearages, with notice that they would be expelled for non-payment of dues if they did not respond.

Dr. Schaufler, the essayist, being absent, no paper was read.

This being the annual meeting, the election of officers for the ensuing year followed.

Dr. Rodgers nominated Dr. Glass for President. Dr. Glass withdrew, and with an appropriate speech moved that the present incumbent, Dr. Hoskins, be continued; Dr. Zuill seconded the nomination. Dr. Rodgers moved that the President be elected by showing the right hand. Dr. Zuill took the chair to put the question. - Dr. Hoskins was unanimously elected President for the coming year. Dr. Rodgers made a flattering speech, eulogizing Dr. Hoskins, giving him the credit of starting and perpetuating the Keystone Association by his untiring efforts to make each meeting an object to those present and the profession. Dr. Hoskins in reply, thanked the Association for the honor they had done him by unanimously electing him chief officer for a second term. He assured each member that his heart was with the success of the Association. That three years had passed since the Keystone Association was organized with but six members. That now it stood highest in the standard of excellence in this country, it being the only veterinary society that admitted none but graduates of schools of an unquestionable character. That it would become a necessity for every veterinarian claiming public respect and confidence to be a member of some society, and the Keystone was the society to which every one would crave admission. He also referred to a number of practitioners for whom all had respect, and favored their admission to the Association as associate members with all the privileges except election of officers and members.

Dr. Rodgers was elected Vice-President; Dr. Goentner, Secretary and Treasurer; five Directors, composed of Drs. Miller, Glass, Rodgers, Zuill and Huidekoper.

Dr. Hoskins agreed to see a number of practitioners and see if they would become associate members.

Dr. Glass approved of the admission of associate members, but claimed that they should be elected by ballot and only admitted upon receiving a unanimous vote.

Dr. Zuill thought the Association should hold three or four meetings during the year, to which the students at the University of Pennsylvania could be admitted, with their preceptors.

Dr. Glass volunteered to read a paper at the next meeting, subject, "Dis-temper in Dogs."

Dr. Weber of Lancaster, was appointed to report a case "in detail," occurring in his practice during the month.

Adjourned to meet the first Saturday night in November.

CHAS. T. GOENTNER, *Secretary*.

OHIO STATE VETERINARY MEDICAL ASSOCIATION.

A meeting of the Ohio State Veterinary Medical Association was held at Columbus, Ohio, Sept. 2d and 3d, in the Tindal rooms, City Hall Building.

Dr. J. V. Newton, Toledo, O., President of the Association, called the meeting to order, in a very appropriate speech, briefly reviewing the history of the Association from its organization, and related the good work that had been done by its members and asked for the different members to kindly co-operate with Dr. Butler, State Veterinarian, as by so doing he believed that great good could be accomplished, and much credit must reflect on the profession throughout the State of Ohio, especially from owners of valuable animals, both horses and cattle. He also remarked that his attention had been called "by several members of the Association" to the fact of lack of qualification in some of the graduates of veterinary colleges, and he believed that all the veterinary colleges should adopt a thorough matriculatory examination, and only admit those who possessed a good common school education. Another matter which should occupy the attention of this Association, that is unprofessional conduct of certain professors in veterinary colleges, he hoped would be fully discussed when the proper time came.

The regular business of the Association was then proceeded with. About thirty members answered to the roll call from different parts of the State.

The minutes of the previous meeting were read and approved.

The following names were proposed for membership: Thomas Kerr, V.S., graduate of Ontario Veterinary College; J. P. Wilson, D.V.S., graduate of American Veterinary College; C. G. Burger, V.S., graduate of Ontario Veterinary College; E. Barnett, V.S., graduate of Ontario Veterinary College; O. D. Franks, V.S., graduate of Ontario Veterinary College.

All the above gentlemen being duly vouched for as possessing good moral characters by members present, and the ballot being passed and found clear, the President declared them duly elected members. They were then introduced, and each responded in fitting terms.

Under the head of Communications and Correspondence, a letter of regret was read from Prof. Smith, of the Ontario Veterinary College, wherein he con-

veyed his sincere thanks for the kind invitation he received, and hoped at some future time to be present with us, but other pressing business engagements must prevent him from attending our September meeting.

Under the head of Essays and Papers, Dr. A. J. Smith, of Pleasant Hill, recited a very interesting history of several well marked cases of glanders and farcy, all going to show how little outward appearance horses may show, and still the glander virus may be lurking and remain latent for a time in the system without the animal even experiencing much change, unless being subjected to exposure and exhaustion. The doctor spoke at length on the diagnosis of the disease and how difficult it was to arrive at anything like a correct conclusion, when many of the symptoms which should be prominent were wanting; another remarkable feature is how apparently healthy an animal may seem and still be diseased. The doctor also gave a very interesting history of the post mortem appearances of the lymphatics, lungs, liver, kidneys, sseptum nasi and submaxillary glands, all going to show how one particular organ may suffer more than another.

Dr. J. S. Butler, Piqua (State Veterinarian), related his experience of late in looking at glandered horses, near Marblehead, O., and Sandusky City, where he found several well marked cases and ordered them destroyed.

Dr. W. C. Fair, Cleveland, related a peculiar case of glanders in a pony which was sent to Cleveland from New York City, and had evidently been diseased before being shipped. He also spoke of having destroyed three horses out of twelve which were suffering from chronic glanders, and none of the others were affected afterwards; and in another stable where 80 horses were kept, he destroyed six, and none of the others had contracted the disease, all going to show how unsusceptible many horses are to become diseased, and, in his opinion, many horses were destroyed supposed to be glandered that were not.

Dr. D. P. Youkerman, Cleveland, spoke of having met with two cases within the past few months; both cases were imported from Pennsylvania.

Dr. T. B. Hillock, Columbus, had met with one case some months ago, and believed the city free from the disease at present.

Dr. R. W. Whitehead, Youngstown, met with a case some time ago, and ordered his destruction; came from Pittsburg, Pa.

Dr. J. C. Meyer, Jr., Cincinnati, had met with several cases within the past year, but thought their city free from glanders at present.

President Newton then called for other papers.

Dr. W. C. Fair said he had hurriedly prepared a paper to read at this meeting, but was somewhat ashamed to give its title, it being a disease that not only professionals claimed to fully understand and treat successfully, but every man who owned a horse knew of a sure cure; and in no disease are the powers of nature and the scope of medicine so clearly exemplified, simply because eight-tenths of all cases would recover if left to themselves, hence the reason of claiming such curative properties to worthless prescriptions; but, in his opinion, no acute disease affecting the horse proved fatal as often as acute indigestion and colic; and, in his opinion, the profession was not in possession of a sure and certain remedy to cure all cases of colic. The paper was lengthy, first treating on the pathology of the disease; second, cause; third, symptoms; fourth, treatment. The doctor said

that the majority of cases of colic were treated without a proper knowledge of the causes, as many different causes give rise to uneasiness and abdominal pain, and when the animal was rolling and tumbling a correct diagnosis could not always be made; but he believed the sheet anchor to success in the treatment of flatulent colic was to puncture the large intestines by means of a long and small trocar and canula, and not delay the operation too long, as he believed was often the case. He had practiced the operation for the past ten years with good success, and would not hesitate, if called to see the most valuable horse that lives, to operate, if enemas failed to bring a free discharge of gas. The most baffling cases are those where the fermentation is mostly all going on in the stomach and when all medicinal agents seem to have no impression in neutralizing the gases. In many cases of colic administers a cathartic and believes it produces good results.

Nearly every member present took part in the discussion, and many offered valuable prescriptions.

Drs. Smith and Whitehead gave some valuable information regarding the use of sulphate of eserine, both having great faith in its curative properties in obstinate cases of flatulent colic.

Dr. J. C. Meyer, Jr. spoke of using the trocar per rectum successfully in some cases, and believed it worthy of a fair trial. Colic was often due to atmospheric causes.

The evening session then closed, to meet at 7:45 o'clock, a.m., Sept. 3.

The meeting was called to order by the President, who stated under the head of unfinished business, the question of appointing delegates to the National Veterinary Medical Association. After much discussion, the following delegates were elected to attend the National Veterinary Medical Association in Washington, D. C., in November: Dr. F. Bent Cotton, Mt. Vernon; Dr. D. P. Youkerman, Cleveland; Dr. J. S. Butler, Piqua (State Veterinarian).

Two delegates were also appointed to attend the United States Veterinary Medical Association, in New York City, Sept. 15.—Dr. J. C. Meyer, Jr., Cincinnati, Dr. W. C. Fair, Cleveland. Both sets of delegates go instructed to endeavor to bring about an amalgamation of the two associations, the National and United States.

After considerable discussion about the different veterinary colleges, and the loose manner in which many of them admit students without even knowing whether they have a common school education or not, the simple requirement being age, it was decided and resolutions were passed instructing Dr. Fair, Corresponding Secretary, to write to each of the Veterinary Colleges in the United States and Canada, expressing a sense of this meeting and urging upon them the necessity of a more thorough course of study, and asking them to lengthen the term to three sessions instead of two and compel the student to devote the intervening months to study with a qualified practitioner.

The subject of unprofessional conduct was fully discussed, several members present taking the ground that nothing had a greater tendency to prostitute and disgrace the profession than professors of veterinary colleges advertising specifics, while others were giving long lists of references and seeking newspaper puffs, publicly advertising both doctor and patient. Charges should surely be preferred against members of the profession who are guilty of such conduct; and until

graduates of colleges cease to solicit patronage in the above ways, they cannot hope for the profession to be looked upon with much respect. It was hinted that at the next annual meeting a public exposure of all guilty members would be made, and charges preferred, unless some change took place in the near future.

Dr. J. S. Butler (State Veterinarian) was called on to give an account of the work he had performed since receiving his commission. The doctor gave a very excellent history of his researches in different parts of the State, and a full report of the cases of splenic apoplexy in cattle near Toledo, and several cases of glanders near Sandusky City and Marblehead; also that he was proud to announce that to the best of his knowledge pleuro-pneumonia contagiosa had been effectually stamped out in Ohio.

Dr. J. S. Townsend, being present, was called on and spoke on Veterinary Education. He expressed himself as being much pleased to see such a deep interest taken in the profession, and the growing desire of those present to see that only competent men were allowed to pass the examinations of veterinary colleges and to go out and practice the profession. He also remarked that there were prospects of the State Board of Agriculture establishing a veterinary college in connection with the State University.

Resolutions were passed instructing each member to report at once to Dr. Fair, Corresponding Secretary, any peculiar and interesting case or outbreak of disease, the same to be published in the *AMERICAN VETERINARY REVIEW*, whenever the profession may be benefitted by so doing.

The Association meets at Mt. Vernon, O., the second Tuesday of January, 1886, at which time the election of officers will take place. Papers will be read and discussed, reports will be had from the different principals of veterinary colleges, giving their views on the requirements for admission and the propriety of lengthening the course of study. The meeting will be interesting, therefore a full attendance of all qualified veterinary surgeons is earnestly requested.

EXCHANGES, ETC. RECEIVED.

In addition to our usual exchanges of weekly and monthly periodicals, we have received the following :

CATALOGUES AND PAPERS.—The U. S. Medical Investigator, The Clinical Notes, Local Treatment of Disease, by C. L. Mitchell, M.D.; Monographia Syphilitica, by Geo. W. McDade, M.D.; Physical Examination of Weak Chests and Differential Diagnosis of the Several Forms of Early Phthisis, by Dr. E. D. Hudson, Jr.; Some of the Diagnostic Relations of the Indigestions, by Dr. E. D. Hudson, Jr.; Post Mortem Examinations, by Virchow; Physicians' Visiting List, 1886; Rapport sur la Fievre Aphteuse; Rapport sur la Fievre Charbonneuse; Rapport sur la Dourine, par M. Laquerriere; The Microscope—Monthly Journal, by Charles H. Stowell, M.D., F.R.M.S.; Rapport sur le Rouget.

Prof. HENRI BOULEY.

BORN IN 1814.

**Inspecteur-General des Ecoles Veterinaires de
France ; President de l'Academie des
Sciences, (Paris).**

At this late hour, and as we are going to press, it becomes our sad duty to announce to our friends the loss sustained by the Veterinary Profession of the world in the death of this eminent man, to whom Veterinarians of France owe so much as a leader, a teacher, a friend, and in many instances almost a father.

AMERICAN VETERINARY REVIEW,

DECEMBER, 1885.

EDITORIAL.

PREVENTIVE VACCINATION IN DOMESTIC ANIMALS—OUGHT IT BE MADE OBLIGATORY?

Now that Mr. Pasteur has completed his discovery of the true method of preventing the ravages of the contagion of anthrax, of hog cholera, of chicken cholera and of hydrophobia, it devolves upon the philanthropist and the legislative guardian of the public weal to ponder the matter carefully, and to turn to practical account the conclusions of the labor and research of the great experimentalist. The contemplation of the beneficial results attainable from these discoveries, and the obligations under which Mr. Pasteur has placed society and the state by their promulgation, are vast and immeasurable. The responsibilities resting upon the individual owners of domestic animals are, also, too obvious and weighty to be ignored, and the proprietor of an animal subject to the maladies investigated by Mr. Pasteur can never more be justified for failing to recognize the inoculation whose results are so well and so thoroughly proved. No owner of a herd in a district subject to anthrax can be excused for leaving his cattle uninoculated. No owner of a herd of swine can escape censure—which a just penalty should follow—for neglecting their vaccination. And last, but not least, how can the owner of an animal subject to hydrophobia be forgiven for his criminal cruelty, who suffers such a creature to run at

large among his neighbors, because wantonly overlooking the discoveries of Pasteur?

We are quite aware that in venturing these remarks and putting these questions, we are exposing ourselves to a great deal of criticism, and that we may even be accused, as Mr. Pasteur has already been, of attempting to "make a corner" in vaccine! But—to adhere to the true matters of the issue—what difference can there truly be between pleuro-pneumonia and the diseases named; and what, (if we may be allowed to strain the comparison somewhat) between the fearfully contagious and infectious disease of smallpox, and the no less frightful and commonly fatal anthrax; or still more, the irresistible and deadly hydrophobia, that they should be discriminated in devising and applying measures and methods of "crushing out" the evil common to them all? It is true that these affections of our domestic animals are not very frequently communicated to man, and this may be a reason for failing to make vaccination obligatory, as it is in the case of smallpox. But why is it made obligatory in some of the countries of Europe, for contagious pleuro-pneumonia? It is not done because of its dangers to man, but because of its dangers to the national wealth. Hog cholera kills hogs by thousands every year, and the loss in money reaches millions of dollars. There is no good reason, no excuse even, for this. Anthrax, either in its bacteridian or bacterian form, carries away annually hundreds of our fat cattle, and besides the pecuniary loss to individuals and to the nation, exposes many human beings to long sickness and possible death. There is also no reason for this. Hydrophobia kills, perhaps, a less number of animals, but when it attacks one, it not only irrevocably seals his doom, but as long as he lives exposes to certain death every man, woman or child who may come in contact with him, when attacked at last. And now that we know that for this disease, as well as for the others named, there are means of prevention—that inoculation will insure immunity—why do we longer hesitate or doubt? We are sure that the question may be wisely put, both from the point of view of the protection of human life, and from that of the economies of our national wealth. Does

it not then become the imperative duty of our sanitary legislators to make the vaccination of our domestic animals, to a certain extent, obligatory, just as it is for our own species; at least under such peculiar conditions of sanitary precautions and requirements as may upon further discussion be found necessary?

CONTAGIOUS DISEASES IN THE UNITED STATES AMONG
DOMESTIC ANIMALS.

A general examination of our agricultural papers reveals a sad state of affairs relating to the prevalence of contagious diseases of domestic animals in the United States. It is not now, as it was but a few months ago, when the bovine scourge of contagious pleuro-pneumonia alone prevailed alarmingly, although this still continues to occupy a large space in the columns of the veterinary department of these journals, but it is glanders; it is anthrax, in its various forms; and it is hog cholera, of which the evil tidings come.

There is no doubt that pleuro-pneumonia is the one which seems mainly to call for immediate action, for there is against this but one prophylactic measure; the only means of effecting its extirpation is the radical process of stamping out.

The process of inoculation, with all its advantages, is not without objection; though, after all, there is not the same danger to human life in pleuro-pneumonia that accompanies glanders; and every one is aware that this disease is to be found all over, regardless of locality, and that occasionally a case of infection by a human being is reported. It is true, that it is rare, but is not a single case sufficient to show its dangers, and to establish the necessity for urgent preventive legislation? And again, how shall our duty in relation to hog cholera and anthrax be performed, and when shall we begin to see about it?

The subject of sanitary veterinary medicine and legislation is one that our National and State governments can no longer ignore? The National Convention of Cattle Growers which met recently will certainly not ignore the importance of these subjects, and it is to be hoped that their action will result in some practical plan by which the power of combating and controlling these domestic

pests will be committed to the hands of men educated to know and competent to direct in the matters in hand.

VETERINARY EDUCATION IN AMERICA.

The various questions relating to veterinary education which were agitated at the meeting of the Ohio State Veterinary Medical Association, and to which the attention of our readers was called in our last issue, seem to have been overlooked by our friends. Our call for suggestions and opinions on this important subject has, therefore, quite failed to receive from our fellow veterinarians the attention it deserves. We have asked for an expression of opinion, and have offered the hospitality of our columns to all who might feel inclined to occupy them, and still our invitation is quite without response. We have said that the subjects discussed deserve close attention, and an evidence of this is found in the remarks that are made in the best agricultural publication of the country.

The *National Live Stock Journal*, in an editorial on October 20th, publishes an excellent article on this question, which well merits the attention of all interested persons. The questions of the veterinary calling, veterinary colleges, and veterinary education is one which concerns every American, and in which every practitioner is interested, and any opinion on so important a subject should meet with careful consideration. Veterinary colleges are becoming plentiful in the United States, but it must not be forgotten that not quantity, but quality, is the thing needed. Veterinary education may be good and thorough in one, but deficient in another, as in other departments of science. A regular and proper standard is the desideratum in the case, and counsel and suggestions from all will be necessary to secure the most advantageous results to all. As remarked by our contemporary, "Millions are annually involved in a satisfactory veterinary service, and in view of the general demand for more efficient and national contagious-diseases legislation, the entire subject is particularly important at this time." Once again we would ask for the opinions of our colleagues on the three suggestions involved in the letter of Dr. W. C. Fair, published in our November number.

CONVENTION OF VETERINARIANS AT CHICAGO,
NOVEMBER 16, 17 and 18, 1885.

This meeting of veterinarians was called to suggest to the National Cattle Growers' Convention the best method of dealing with contagious and infectious diseases of domestic animals, and to assist in shaping future legislation in reference to the same.

The results of this convention cannot be said to have been all that were desired. There was much time wasted in personal matters, criticism of existing methods, etc., etc.

To every thinking veterinarian there can be no doubt but that under the existing imperfect laws, while much good has been accomplished, there have been sins of omission in many instances. To a great extent these have been unavoidable, and even were this not so, comments at such time and place must be considered as ill-timed.

The convention was practically a unit upon the necessity of *National legislation*—as States have in almost every instance failed to eradicate or even control outbreaks of communicable diseases, without aid from the general government. It is a matter of great regret that a few veterinarians present advocated the practice of inoculation for contagious pleuro-pneumonia, and that others declared that so called "recovered cases" cannot communicate this disease to other cattle. Inoculation is not to be seriously thought of in any country where extermination is possible; nor can we ever expect to be rid of contagious pleuro-pneumonia so long as "recovered cases" are allowed to mingle with healthy animals. These two positions have been so thoroughly established, so frequently proven, that it is a painful surprise to everyone to hear them even mentioned at this date.

In dealing with purely exotic plagues, veterinarians who are influenced by such opinions are certainly not those to be trusted during the present crisis.

Given the proper legislation and moneys, contagious pleuro-pneumonia can now be effectually stamped out of the United States. But this will *never be accomplished* if we inoculate, or preserve in our midst "recovered cases," to slowly but surely continue the plague.

Improvements of our quarantine stations were declared necessary in order to prevent future importations of contagious or infectious diseases. Such improvements will follow when better laws and a sufficient amount of funds are provided.

The organization of a National Veterinary Sanitary Board was urged, and a committee appointed to draft constitution and by-laws, to be presented at the next meeting of the convention. If this can be accomplished, veterinary medicine will have taken a long stride toward the place she deserves to hold in the political economy of this country. C. B. M.

CORRECTION.

In our November number, at the sixth upper line of page 272, the word "medical" ought to be replaced by the word "veterinary."

ORIGINAL ARTICLES.

DISEASES OF THE HEART IN DOMESTIC ANIMALS, ESPECIALLY THE HORSE.

BY FR. BLAZEKOVIC.

(Translated by J. C. Meyer, Sr., V.S.)

Continued from page 300.

Carditis and Myocarditis.

The injection of the inter-muscular tissue is considerable at the outset, characteristic ecchymotic redness appears very soon; the affected parts are dark colored, and, by the fluid effused in the cellular tissue they become softened, swollen and of a tawny color. Such smaller or greater dispersed deposits are spread over the greater portion of the section of the heart, and often affect the wall of the heart in its entire thickness. In traumatic myocarditis such spots are most numerous in the immediate vicinity of the injured part. In such case the pointed foreign body which penetrated the heart and reached here through the diaphragm and pericardium from the reticulum, becomes enclosed by a solid fibrous capsule in the muscle of the heart; still there are always such changes to be found which characterize the traumatic

pericarditis. The point of the foreign substance is either surrounded by coagulated fibrin and projects freely in the cavity of the heart, or it presses against the opposite partition of the lining, which is rent in consequence of the point gliding up and down during the normal action of the heart.

The more circumscribed the myocarditis is, the more numerous are the above described spots. The usual termination of the same is induration, formation of callous scars, or suppuration. Upon the cadaver of the horse callous scars are often found as marks of protracted inflammation of the heart; they are either ramified, or solid white callosities of various dimensions, taking the place of the muscle of the heart. In the latter form they appear most frequently in the left ventricle toward the apex; they are then not as thick as the wall of the heart, sometimes bent outward, forming a circumscribed aneurism of the heart. Undoubtedly such pouch-like projections are still formed in the stadium of saturation as the result of a circumscribed inflammation, and before the callous formation which seems to be brought about in the stadium of fatty degeneration and mollification.

The issue of myocarditis into callous hardening often extends to the inner part of the wall of the heart, otherwise to the outer part with the pericardium, or to the entire wall of the heart in its whole thickness, including pericardium and endocardium. Such extended callosities which penetrate the entire thickness of the muscle, influence not only the increase of the positive enlargement of the cavity of the heart ushered by the inflammation, but especially the formation of the above described pouch-like expansion, the true aneurism of the heart.

The termination of carditis into suppuration is not so frequent, and is manifested by the presence of small abscesses in parts of the relaxed and discolored muscle of the heart. Especially are such cases known in the dog. These abscesses, which vary in size from a pea to a penny, are filled with thick yellow pus, and occupy the whole thickness of the wall between the outer and inner membrane, and by very small openings perforate the inner or outer wall of the heart; more frequently the inner. The flesh around the heart is always pale, very tender and soft. The form

of such ulcers is generally irregular, forming shoots and protuberances in different directions. If the abscess be not obliterated by inspissation and chalky formation of its contents by being capsulated and absorbed before paralysis of the heart occurs, then rupture and destruction of the wall of the heart produce the fatal issue of this degeneration. Metastatic abscesses in the liver, spleen and other organs are proofs that this condition of things is the result of pyæmic processes.

Hypertrophy of the Heart.

Hypertrophy of the heart is such a condition of the heart in which a conspicuous increase of the muscular substance of the heart is formed and is characterized by an abnormal enlargement of this organ. Such anomalies of the heart are frequently found at post-mortem examinations; these are partially confined to single portions of the heart, or they may extend over the whole organ. It appears that the left half of the heart is oftener affected than the right. Such a hypertrophical part of the heart is generally of a dark color; the texture is more solid and the primitive bundles are thickened, in fatty degeneration often pale and tender.

From the various results we are able to divide hypertrophy of the heart according to the synchronal capacity of the cavities of the heart into

(a) Simple hypertrophy, without diminution of the capacity of the cavity of the heart.

(b) Eccentric hypertrophy, with expansion of the cavity.

(c) Concentric hypertrophy, with contraction of the cavity.

In simple hypertrophy the walls are simply thickened without expansion of the cavity. The greatest number of cases are found in eccentric hypertrophy, which affects the ventricle as well as the arteries, but mostly those of the left half of the heart. They usually appear in one part of the heart and gradually spread over the other parts. Under such circumstances the expansion and enlargement of the heart can become very great. Thus the long and short diameter of the heart becomes so large that it often attains an enormous circumference of round, plump form.

The occurrence of hypertrophy of the right half of the heart is rare, and is restricted to the ventricle and auricle.

The eccentric hypertrophy always results in enlargement. It consists of the passive enlargement, mostly of one part of the heart, accompanied by attenuation of its walls. The muscular substance is now normal, now soft, easily lacerated, fatty degenerated, pale, or of a dirty yellow color. It can attack the right auricle and ventricle. If it occurs at the same time with the eccentric hypertrophy of the left ventricle, the heart exhibits a considerable enlargement of its circumference, and the walls, which are relaxed, collapse quickly after the emptying of the blood.

Simple expansion is an enlargement of the cavities of the heart with unchanged thickness of its walls. This condition can only be conceived with a relative hypertrophy of the walls of the heart, since otherwise, in consequence of the expansion of the walls of the heart, these would necessarily grow thinner. The larger the hypertrophied heart, the more abnormal will be its position. Occasionally it hangs toward the left thorax, often nearly diagonal, with the base toward the right, the apex toward the left, touching the lobes of the lungs and the diaphragm.

Texture, consistency and color vary considerably. The color is dark brownish-red, the consistency often perceptibly increased, the texture, however, only apparently normal. The color of the suffering ventricle is of a murky blue, running into the yellow. This color appears either in spots or through the whole diameter. At the same time the consistency is modified. The wall of the heart is resistant and firm; the muscle, which has lost its former solidity, becomes brittle and tender. The change of texture existing thereby is regarded as a form of fatty degeneration, which often appears as an accompanying disorder of the hypertrophy and develops in the already hypertrophied heart, and then promotes expansion, also spontaneous bursting of the part of the heart concerned. Purulent infiltrations are found quite frequently in the muscle and on the surface of the enlarged part of the heart, which are regarded as residue of a previously existing inflammation.

The form of the hypertrophied heart is often influenced by the separate divisions of the heart in different ways. If the left ventricle suffer, which is most frequently the case in eccentric hypertrophy, the heart generally appears long, conical or cylindrical, seldom round or broad; if, on the contrary, the right half of the heart be thus attacked the heart increases in its breadth diameter. The inner lining of the heart is often found hypertrophied in the left heart, (auricle), frequently in the semi-lunar shaped aorta and bicuspid valves. Such hypertrophy is generally conditioned by the new formation of cellular tissue which proceeds from the inner membrane. In the beginning it is soft, later tendinous and cartilaginous, and finally it can become ossified. The valves then are thickened, turned at the edge; their ganglions quite prominent, sometimes grown together with their angles closing the aorta partly or completely,—they are insufficient—in consequence of atheromatous degeneration, rough and uneven on the surface, coated with a fibrous coagulation. This condition is for the most part the result of inflammation of the valves. The bicuspid valves become hypertrophied by thickening of the cellular tissue.

Atrophy.

Atrophy of the muscles of the heart is rare among domestic animals. If it takes place partially, it appears as an attenuation of the walls of the auricle; especially is this the case in horses. The muscular substance is but slightly changed; now it is pale and tender, then of a darker color and more solid in consistency. The primitive bundles are simply atrophied, without other changes in texture, often at the same time fatty degenerated.

We divide atrophy into simple, with unchangeable space of the cavities of the heart; into concentric, with diminution; and into eccentric, with enlargement of the circumference of the heart. The diminution of the heart can be caused by steady pressure from without; for instance, a barb-like mass capsulating the heart, or fluid exudations after an inflammation, can produce such a pressure. Sometimes the heart appears atrophied after a long exhaustive illness. In a mild form of the disease the free edge of the valves thicken; later they also thicken toward the

base, are of a yellowish-white color, less movable, shortened and shriveled. The inserting tendinous cords of the valves are now unchanged, now shortened, causing insufficiency.

Enlargement of the Heart.

The enlargement of the heart is synonymous with eccentric hypertrophy; still expansion without hypertrophy is also present. Sometimes with passive dilatation the heart attains a considerable circumference. Cases of developed total enlargement are not very numerous. More frequently is the vena cava at the aortic ventricle greatly expanded. Sometimes hypertrophy is united with atrophy of other divisions of the heart so that different changes in volume appear combined.

Expansion of the heart takes place more frequently diagonally than perpendicularly, whereby it attains a rounded broad form. By extension united with atrophy, the change of the substance of the heart is mostly uniform and often reaches such an astounding reduction in substance that it can be scarcely believed how such material could carry on its function. The muscle of the heart is sometimes colored purple-red, dark brown-red, at the same time relaxed in a high degree, tender and easily lacerated; the walls of the heart collapse after they have been cut open. If softening and attenuation of the muscular substance be present, this produces the immediate cause of rupture.

(To be continued.)

THE HORSE'S FOOT.

BY W. BRYDEN, V.S.

All domesticated animals have special qualities which make them useful or valuable, and just in proportion as such qualities can be developed by cultivation or training do certain breeds or individuals rank above their fellows.

In a state of nature such animals are just what their surroundings make them. Although they may be coarser in form, yet there is a rough harmony in their organization which adapts them to the circumstances their existence demands, and if the test could

be applied it would possibly be found that the average physically, of a herd of wild animals, would be little below that of an equal number of those reared in domestication.

In the horse, strength, endurance and locomotion are indispensable qualities. They have not the "royal brain" of man, especially when educated to supplement inferiority of organization, consequently, although we may find among them individuals superior to any found in a wild state, yet we also find many lower down in the scale—some links in the chain are so weak, that as a whole it is worthless—chiefly from inferiority in the character of their locomotive organs.

When youth, with its natural habits and the freedom then enjoyed, is exchanged for the restraints that follow, they become more subject, not only to such diseases as result from changes of temperature and of food, but their feet, from the liability of the *hoofs* to acquire growths that are undesirable, are affected adversely by the new surroundings.

Defective form of the hoof, Dr. Fleming says, causes "not only disturbances in the direction of the limb and its movements, but considerably modifies the growth of the horn." From the nature of its tissues, the important functions required of it, and the variety of circumstances under which it is grown, we find a variety of different forms and qualities, some healthy, many defective. Among those that may be classed as healthy we find, for example, large hoofs and small hoofs, with modifications of each within the range of soundness, and just as such hoofs determine the differences in the character of the limbs when healthy, do those that are defective determine the particular diseases the limb is liable to be affected with. It is the medium through which the influences of different surroundings are exerted in a right or wrong direction, and the medium through which restorations can be accomplished, even without the aid of applications to other parts. A knowledge of how to manage and cultivate this remarkable organism is therefore indispensable to the attainment of perfection of physical organization in these animals, and as such knowledge can only be acquired through a careful study of its history and the influences that affect its growth, we will

examine as briefly as possible some of them. Proof of its significance is nowhere more forcibly presented than from its pre-historic history. In those remote ages, as an excellent friend has shown me, *it resembled a paw*, adapted to floundering about on the soft, swampy, lacustrine ground peculiar to a very remote period, but as the earth surface became harder and drier a corresponding change became necessary in the extremities, the hoofs began a gradual process of development, which in turn modified not only the form and character of the limbs, but all parts of the body as well.

Farther evidence of the influence the character of the soil exerts is to be found in the present great variety of hoofs, each peculiar to different sections of country.

We are told that "about the third or fourth month of foetal life the hoof begins to form under a soft gelatinous substance, which at birth soon wears off, disclosing the sole, wall and frog already formed." Among the influences that affect it in its future history are: *Parental Characteristics*—the shape and capacity of the pelvic cavity and adjacent parts of the mare; the health, especially of the mare, whether the subject of rheumatoid or other diathesis; whether a sufferer from accidentally diseased or deformed limbs, inducing possibly, abnormal reflex effects, the position of the limbs in utero, accidents during parturition, etc.

The other influences that I will call your attention to are: *Time of Parturition*—whether the foal at birth is kept for weeks or months on a dry stable floor or other unsuitable place, or in pasturage, such as nature intended and the delicate little hoofs required. Whether reared in the north, with the usual six months of imprisonment each winter, or further south, where plenty of outdoor exercise can be had all the year round, so essential to muscular development and insuring an amount of *tear* and *wear*, without which no hoof can possibly be strong and hardy. The quality of such tissues as the skin, hair and hoofs, whether coarse or fine; the climate, whether wet or dry, cold or hot; the soil, whether low meadow or dry upland. There is still another influence demanding careful study—*Heredity*.

No one can deny the importance of this subtle agency,

which in its application to the diseases of the horse's feet and limbs has often been exaggerated and misunderstood, attributing to it what really belonged to other factors. In a single individual this mysterious process may exert itself in both a right and wrong direction. In the offspring of one combination it may be most pronounced, while in still another apparently more obnoxious, it may be so *dilute* as to be hardly recognizable. A young animal bred from parents having diseased hocks or defects, such as spring-halt or pacing, when found to be similarly affected, would seem to be *prima facie* evidence of hereditary transmission, but when we reflect that such animal having been brought up under precisely similar conditions and surroundings as its progenitors, it would be quite remarkable if it did not develop somewhat similar undesirable characteristics. A shrub by the seaside, if exposed to the full sweep of the ocean's gales, has its limbs all on one side; the same shrub if grown further inland and less exposed, would have its branches evenly arranged. A mare suffering from spavin, for example, has in addition to the changes in the foot and limb, a condition of the whole quarter that renders her less robust than if perfectly sound. The gluteals are changed, the hip is dimpled, the pelvis is twisted, the tail is carried to the affected side, the genitals are softer, *æstrum* is often irregular and impregnation accomplished only after repeated trials. The young of such an animal may not necessarily be spavined, but being less robust than if from sound parentage, is more liable to be affected adversely by the influences to which it is exposed.

Many of these processes that at first glance appear mysterious are found on closer acquaintance to be capable of easy comprehension; it is therefore of the utmost importance that we try to arrive at something like the exact proportions of a subject like this, neither undervaluing nor over-estimating its wonderful significance. Having already intimated "that many districts have hoofs characteristic of the locality in which they were grown, with limbs and general conformation to correspond, and that diseased limbs have hoofs characteristic of the disease," it does not appear to me to follow that because a horse born and brought

up in Maine becomes spavined or deformed in his limbs, he would, if brought up in Kentucky. Neither can I perceive why a herd of horses, male and female, ringboned, spavined and otherwise affected with diseases peculiar to their limbs, if turned loose in a country suitable for their continual existence, should not produce offspring that would in time be entirely free from such diseases.

Before we can properly guard against undesirable changes that domestication brings about, those to which each type of hoof is most liable require to be carefully studied and classified; for example, the large round hoof from some parts of the West was adapted to the locality from which it came, and the only kind possible of production in such a district when not interfered with. Yet its low sole and frog, large enough to take up one-third the area of the sole, although a delight to all admirers of large frogs, is ill-suited to our hard streets, from its being *too wide*. It is, therefore, of great importance that we know how to guide this living structure in the mature animals as well as in the young, so as best to *acclimatize* it gradually and fit it for its new requirements, instead of in a hap-hazard sort of way trusting to old nature to make unaided the desired changes.

Whether the heels expand or contract when the weight is thrown on them has often been discussed, and pages have been written on the subject. That the short wide hoof spreads at the heels there can be no doubt, and it is not disproved by the fact that in toe crack and quarter crack, the edges come together when the foot is placed on the ground; still there is a class of hoofs with heels wider at the hair and narrow below, that may come together, or at least resist the expansion.

It may be said in opposition to this view, that the hoof determines the character of the diseases peculiar to the limb; that it is the limb that exerts the adverse influence on the hoof. That there is some reciprocity between them may be admitted, but, if we take as an example, a leg that has been accidentally cut or bruised severely in some important part, causing the foot to be held suspended for a long time, the hoofs will change in the direction to which its form predisposes it, and when the injury has got well, if the hoof has become imperfect, it will react on the

limb, *not by reopening the sore*, but by inducing the diseases peculiar to it.

On a limb predisposed to curb it might be impossible to produce a spavin, while there are others again so well organized, that it would be impossible to produce any disease on them. A rare commodity, but one, it is to be hoped, we may see more of.

Some growths of the hoof interfere with the circulation, either by crowding the secreting structure or otherwise injuring the sensitive tissues within, and cause such diseases as thrushes, corns, quarter-cracks, toe-cracks, seedy toe or quittor. *Peripheral disturbances* and *pain* may be induced; both react on the limb, either directly or by reflex action, causing imperfect or unsymmetrical organization, which in turn tends to equivocal action or gaits, such as pacing, spring-halt, hitching, interfering, over-reaching, paddling or stumbling; to deformities, such as ringbones, spavins, splints, curbs or atrophy of some part; the column of bones becoming distorted and changed from the changes in the muscles, tendons and ligaments.

The development of a projecting bone-spavin appears to me to be somewhat analagous to the physiological development of projecting apophyses, as described by Marey; one is normal, the other is abnormal; in one we find the insertion of an important muscle, tendon or ligament, while the other might result from the metatarsal flexor—although sound—doing more than its share of work on account of the incompetency or change in other parts; or from atrophy, it having become shortened so that at every step it is overstrained, the ligaments or subjacent tissues being also involved.

In a similar way I will take the liberty to suggest an explanation of the peculiar movements in spring-halt, as when an important muscle becomes atrophied or changed so that its functions are not performed in harmony with the rest.

Growth of the whole or any part of an animal, if arrested for a sufficient length of time between birth and maturity, can never be fully recovered, whereas, after maturity, a part may atrophy or degenerate and again be restored; it is important therefore, that we recognize the necessity of placing the young animal unde.

the most favorable circumstances for the even development of an organism so far-reaching in its influence as the hoof. It can never be grown as a hot-house plant, but must have constant *tear* and *wear* on suitable ground; this is an indispensable factor in its cultivation. This the breeder must fully understand; some parts of his farm may be as unsuitable for his colts to run in as a swamp would be for wheat, and yet he may have within its limits fields admirably suited to their wants, if judiciously used; if to this is added a knowledge of when to use the rasp or paring knife, with perhaps some simple application, less will be heard of heroic operations, fiery tortures and the mysterious remedies of the past.

I think it is Herbert Spencer who says: "We want all facts which help us to understand how a nation has grown and organized itself." This applies as well to the horse's feet. I sincerely hope that the study of this subject will be taken up by the profession with an enthusiasm which will lift it to the position its importance demands, and that it will be thought worthy of the best efforts of our brightest men.

MICROBES AND CONTAGIOUS DISEASES.

BY M. TROUËSSART.*

The parasitic theory of contagious diseases is far from obtaining the assent of all medical men. In fact, it has thus far encountered strong opposition from men high in authority, who have become the champions of the counter theory of the innateness of diseases. In their view, disease develops itself spontaneously, or at least, under the influence of a contagium whose nature is yet unknown. They hold that when microbes are discovered in the blood of patients, it is only as a secondary complication; they are not the cause of the disease, and are neither the contagious

* From the *Revue Scientifique*, Feb. 26, 1885.

element nor the vehicle of the contagium. In a word, the microbial theory is a purely gratuitous assumption.

Let us admit this, and compare it with the other theories which have been proposed to explain the virulent and contagious nature of some of the forms of disease. This comparison may somewhat enlighten the question.

The value of a hypothesis is measured by the number and importance of the facts which it clearly, precisely, truly and scientifically explains; as well as by the progress which it has aided science in securing. Let us then pass in review some of the various theories proposed in explanation of the origin of virulent and contagious diseases, while excluding the intervention of microbes.

The theory of blastemas of Mr. Robin.—Though this gentleman, so far as we know, has never published anything in relation to his opinions as to the value of the microbial theory, some of his pupils have made known the theory of their master in certain publications issued within the last ten or twenty years.

In Mr. Robin's view, all cells do not originate from other cells, in the form of granulation, egg or spore. *Spontaneous generation*, due to the action of elements essentially *mineral* in their nature, it is held, does not exist; but this generation or genesis takes place every day, at the expense of an organized and living, though liquid and amorphous matter, which is derived from other pre-existing cells. It is this liquid that Mr. Robins calls *blastema*. This proceeds from the excess of nutritive cells, or organized substance, which these cells exudate around them, and by which new cells are formed, complete, at the expense of this blastema, without taking more from one cell than another. It is thus according to Mr. Robin, that pus corpuscles are formed, which are a new creation, and are the result of the organization of a liquid exudated in all the organs, and is not the product of the swelling alone, or of the proliferation and granulating of cells already existing, as admitted in some theories, especially those of Schiff and Cohnheim.

This admitted, the origin of all the diseases will consist in a chemical or physiological alteration of the blastemas, which will

at times produce normal cells, to replace those that die by the natural wear of organs, and again give birth to other cells, diseased and dangerous, either by their excess in number, as in purulent infection, or by their special nature, as in cancer and tubercle. But let Mr. Robin speak: "The cause of morbid troubles is due to changes that take place in the quantity and nature of the immediate principles of the true substance of tissues and humors. *These are the alterations which render possible the growth of spores of very small size.* The multiplication of microscopical vegetables is an epiphenomenon, and not the producing or even scientific cause. *The presence of the vegetal parasite is a complication mistaken for a cause.*"*

This was written some thirty years ago, and one may be allowed to ask if the immense progress made since that period has not modified this opinion of the author? Has Mr. Jousset de Bellesme, then, any right to use and interpret it, as he does, as follows: "The microbe, when it really exists, is only an epiphenomenon, and it would not be saying too much in stating that no new element intervenes in variola, nor in scarlatina or tuberculosis, but that *in these cases there are only exaggerated proliferations of normal elements, which, UNDER THE INFLUENCE OF CONDITIONS ENTIRELY OBSCURE, develop themselves in an entirely uncommon manner.*" * * * *

The definition given by this gentleman is not that of contagious diseases, but on the contrary, that of diseases which have been classified under the vulgar and general name of *cancers*. Does he assimilate these diseases together? This assimilation is impossible; every one knows that cancer is not contagious; this single fact puts an abyss between the two kinds of diseases. Cancer is not only neither contagious nor inoculable, but is hereditary in only about *one* case out of *ten*. The contrary is the fact for tuberculosis, a contagious disease, *because it is a microbial disease, and may be said to be hereditary in nine out of ten cases.*

The theory of Mr. Jousset de Bellesme, consequently, explains nothing and avoids the question; saying nothing of the

* *Natural History of the Vegetal Parasites of Man*, 1884.

essential points in question, viz: contagion and virulency. Let us now return to Mr. Robin's theory.

In saying that the microbe developes itself in altered tissues, he is not so far from the parasitic theory as his pupils seem to suppose. It imports little if the microbe is a complication, an epiphenomenon, if this secondary condition dominates the entire disease, and gives to it its dangerous character and its contagious and virulent nature. In the wound of the serpent it is not the bite of the teeth of the animal that makes it dangerous, but the introduction of the venom which accompanies it, or the "epiphenomenon;" and the same thing exists in the anatomical wound.

Two men are affected with pneumonia in the same circumstances; one recovers easily, because he is but thirty years old; the other will almost certainly succumb, because he is seventy-five. Will it be said that he dies from old age, and that pneumonia was only an "epiphenomena?"

Oidium and phyloxera destroy vines exhausted by improper cultivation; will it be said that oidium and phyloxera are not two serious diseases, and that they are only "epiphenomena?"

It is then evident that Robin's theory, as presented by his pupils, is no longer on a level with science, and at least is not applicable to virulent and contagious diseases.

Theory of Mr. Charlton Bastian and English physicians of his school.—This, the theory of the most ardent opponents to that of Tyndall and Pasteur, is found elaborated in the writings of Lewis and Lionel S. Beale. It differs but little from the preceding. According to Lewis, "it is evident that the mycrophites of the blood are only epiphenomena; that the changes of the liquids of the body take place before the slightest trace of their presence can be found."* This, evidently, is Robin's theory.

Beale is more exclusive and absolute.† With him, the solid particles of vaccine are not bacterias or micrococci, but *bioplasts*, or elements derived from the living matter of the cow, and these bioplasts constitute the effective contagiums of all virulent dis-

* *Microphytes of the Blood*, 1881.

† *Microscope in Medicine*, 1882. Fourth Edition.

eases. Bioplasts are very small particles of the living matter of the species infested by disease. Contagium is a *bioplasm*, and "each species of contagious bioplasm manifests its specific and proper action, and that one only." We leave it to others who care to do so, to admire, and are able to appreciate this jargon scientific, which seems to carry us several centuries back; but we may remark that it somewhat resembles another theory, more serious and more complete, which we will now consider.

The theory of the microzymas of Mr. Bechamp.—In this it is not a liquid blastema which is modified in the diseases, but an organized and solid blastema, comparable to blood and constituted of very small particles of living matters, which are the *microzymas*. These are those elementary granulations which are seen under the microscope in cells, and in all the liquids of the economy; it is these, and not the cells, in which they are encysted, which are the true agents of all the functions of the organism. It is by secreting a liquid called *zymosis*, or ferment, which continuously surrounds them, forming, with them, that whole called *protoplasm*, that these microzymas undergo the various changes, the end of which is the nutrition of the organism. It is not parasites from outside which produce virulent and contagious diseases, but the microzymas themselves, by a perversion of their normal function. They then secrete a bad zymosis, and are transformed into bacterias and micrococci, which are wrongly taken for foreign bodies, when they are only the result of a peculiar evolution of the microzymas already existing in our tissues.

But that is not all; these microzymas do not die. In our organs cells die, and are renewed; but the microzymas which they contain only unite to others and form new cells. After death, it is these which, by their transformation into microbes, produce putrid fermentation, and their existence lasts far beyond that of the organism to which they temporarily belong. Thus the microzymas of chalk, which no doubt arise from the tissues of animals and plants at the time of its formation, after a rest of several thousand centuries, are still living and susceptible of transformation into bacteria, when a proper nutritive liquid is

given to them, as was demonstraed by M. Bechamp.

This theory is undoubtedly attractive and explains many more facts than the preceding; but there are many others which do not agree with it, while the parasite theory explains them easily; such for instance, as the phenomena of cadaveric putrefaction, and the good effects of Lister's dressing, or the closing of wounds of Mr. Guerin.

Mr. Robin, in his theory of blastemas, admitted also that the cadaveric putrefaction was taking place without the introduction of any external agent.

But it is known to-day, that cadavers protected from germs of the air become mummefied, without putrefying. Such also is the case with bodies that for centuries have been left in some of the underground vaults of some churches, and which without antiseptic preparation, have been slowly mummefied. Many of these underground places, where the air is dry and of an even temperature, present conditions essentially favorable to mumefaction, because of the fact that they are unfit for the life of low vegetable organism.

The theory of the microzymas explains the transmission of diseases by the filtrated elements of viruses, when the filtrated liquid of that same virus is without danger. From this point of view it is more in accordance with the facts than the theory of blastema, but it does not explain the effects of the closing or the swiftng of the air in the dressing of Mr. Guerin, nor those of phenic acid in the Lister dressing. Indeed, if the virulent microzymas are in the body of patients and do not come from outside, it is difficult to understand the use and advantages of those dressings. Evidently the swiftng of the air, which arrests only *its solid particles*, and allows the air itself to go through, acts then only in arresting *something* which was in suspension in the atmosphere, and that *something* is nothing else but the figured organisms or the germs of the air.

(*To be continued.*)

LECTURE ON BACTERIOLOGY.*

DELIVERED IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK, OCTOBER 14, 1885.

BY ALFRED L. LOOMIS, M.D., LL.D.

GENTLEMEN: Before commencing the history of the so-called infectious diseases, I will invite your attention to a brief consideration of those low forms of life which have become known to our every-day literature as Bacteria. The scientific world is at present devoted to their study, and it is a subject of especial importance to us in commencing our studies of the etiology of the class of diseases which are about to engage our attention.

If bacteria are active elements in the production of pathological conditions, their biology becomes a matter which must concern every progressive medical investigator. If, on the other hand, as many are inclined to believe, they have little or nothing to do with the causation of disease, it equally becomes us as intelligent men to investigate, and if possible, determine their real significance. At different periods in the history of medicine different theories have been advanced, and for a time have held the minds of the profession, to account for the causation of disease, as well as for the peculiar phases which it assumes during its active progress.

There are at present two prominent theories in regard to the infections which produce disease. The first is based upon chemical processes; the second upon the multiplication of living organisms. The chemical theory maintains that after the infectious element has been received into the body it acts as a ferment, and gives rise to certain morbid processes, upon the principle of catalysis. The theory of organisms, or the germ theory, maintains that the infectious elements are living organisms, which, being received into the system, are reproduced indefinitely, and excite morbid processes which are characteristic of certain types

*Reprint from the *Medical Record*.

of disease. This latter theory so readily explains many of the facts connected with the development and reproduction of infectious diseases that it has been unqualifiedly adopted by a large number of investigators. The proofs of this theory had not, however, advanced beyond the demonstration of the presence of certain forms of bacteria in the pathological changes of a very limited number of infectious diseases, until February, 1882, when Koch announced his discovery of the tubercle bacillus, since which time nearly every disease has its supposed microbe, and the race is indeed swift in which the would-be Kochs press forward with new germs for public favor.

It is my purpose this afternoon to pass in rapid review the subject of Bacteriology, noting first the different genera, their biology, etc., and the modern means employed in their study. In referring to the practical study of our subject, I shall do little more than describe very briefly the processes as employed in our own laboratory of biology. Here you will find every means for investigating this subject, and I hope you will avail yourselves of the facilities offered for practical work.

The term *bacteria*, or *microbe*, refers to minute particles of matter, microscopic in size, which belong to the *vegetable* kingdom, where they are known as *fungi*. If we examine a drop of decomposing urine under the microscope, amplifying say four hundred diameters, the field is seen swarming with minute bodies, some mere points, others slightly elongated into rods, all in active motion, rising, falling, oscillating—a ceaseless confusion. If the water be allowed to evaporate, all becomes still, and the slide seems covered with mere dust. Apply a drop of water, and after a short time the little, dried-up granules again show their activity, as though nothing had intervened to disturb their vocation. Similar minute forms are seen in every decomposing fluid, often in the blood and sputum of healthy persons. The air is full of them; the dust of our dwellings abounds with their spores in countless numbers, only awaiting suitable conditions to start into active and rapid reproduction. As I have said, certain forms are found in the blood of healthy persons, while other forms are found in the blood of disease.

All these different organisms have become familiar to us under the generic term *bacteria*, which is a very unfortunate use of the term, as it really applies to only a single class of *fungi*. Cohn, whose classification I think is the simplest and the best, calls them *schizomycetes*, and makes the following classification:

CLASSIFICATION OF SCHIZOMYCETES (BACTERIA).—1. *Sphero-bacteria*, or micrococci. 2. *Micro-bacteria*, or bacteria. 3. *Desmo-bacteria*, or bacilli. 4. *Spiro-bacteria*, or spirillæ, spirochetæ.

I will now briefly refer to the more important features of each of these classes.

First, of *sphero-bacteria*, or micrococci. This is the simplest of the fungi, and appears as a minute organism of spherical form. It multiplies by fission—a single coccus forming two—these two producing four, and so on. They present a variety of appearances under the microscope, as you will observe in Fig. 1. From single isolated specimens (which under the highest magnifying

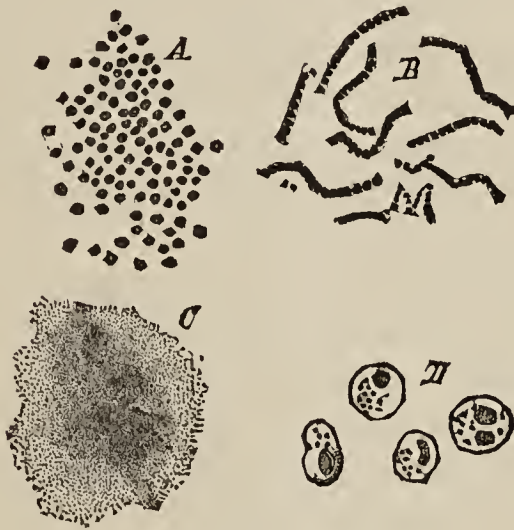


FIG. 1.—Sphero-bacteria (Micrococci). A, *Micrococcus vaccinæ* ($\times 1,000$); B, same in chains ($\times 650$); C, a zoöglæa mass; D, *M. gonorrhœa* ($\times 600$).

powers present nothing beyond minute points), you will observe them in pairs, again in fours, or in clusters of hundreds—yes, thousands (forming zoöglæa), and still adhering together, forming chains.

When a given specimen is about to divide, it is seen to elongate slightly, then a constriction is formed, which deepens

until complete fission ensues. Micrococci possess no visible structure. They consist of a minute droplet of protoplasm (myco-protein), surrounded by a delicate cell-membrane; certain forms are embedded in a capsule. (Diameter, .0008 to .001 millimetre.)

These little organisms, when observed in a fluid like blood, sputum, etc., are found to present very active movements, although provided with no organs of locomotion. This Brownian motion is possessed by almost every minute particle of matter, organic and inorganic, and is not due to any inherent power of the individual.

Micrococci are almost omnipresent. They are always found in millions where moist organic matter is undergoing decomposition. They are associated with the processes of fermentation, in fact, they are essential to it. The souring of milk succeeds the multiplication of these germs. They abound in the air, the earth, the water. Certain varieties are pigmented, and you will observe colonies of these *chromogenic* cocci multiplying in our laboratory upon slices of boiled potato, egg, etc., presenting all the colors of the rainbow. Fortunately, all of these germs are not associated with, or rather are not the cause of disease. Certain species, however (termed *pathogenic*), are always associated with certain diseased conditions.

The second plate which I present (Fig. 2), illustrates the microscopical appearance of the *Bacterium termo*, *micro-bacteria*. You observe that they are slightly elongated, and inasmuch as they multiply by division they frequently appear coupled together, linked in pairs, and in chains. They are generally found in putrifying liquids, especially infusions of vegetable matter. They possess mobility to a remarkable degree. Observing a field of the bacterium termo under the microscope they may be seen actively engaged in turning, twisting, or oscillating—a delicate tail-like filament, or *flagellum*, has been demonstrated as attached to one or both extremities. This is too minute to be generally resolved, even if it is a common appendage.

Micro-bacteria are of various kinds, and although many are pathogenic, the *bacterium septicæmiæ* of Koch produces the most



FIG. 2.—Micro-bacteria (Bacteria). A, *Bacterium termo*; B, same in zoöglœa mass ($\times 600$); C, same ($\times 2,100$) showing flagella.

rapidly fatal results when introduced into the circulation of a living being. Other examples of this class, resembling in every respect, as far as their microscopic features are concerned, the septicæmic bacterium, are frequently found in the blood of perfectly healthy persons.

Desmo-bacteria (or bacilli) are rod-like bacteria, occurring of various lengths and of different thickness. On this account authors have introduced the term *vibrio*, as applied to the long, slender, curved, and thread-like bacillus; bacilli are not infrequently provided with a flagellum, which assists in locomotion. The different species of bacilli differ greatly in their microscopic appearance; while some are rounded at their extremities, others are square cut, and others pointed. Bacilli may develop by division, but their usual mode of development is by spores. You will observe in Fig. 3 the bacillus of tuberculosis and anthrax. Notice at intervals the dots, which represent the spores from which, as the rods break up, future bacilli are developed.

Spiro-bacteria. In Fig. 4 I present to you drawings of two different forms of spiro-bacteria—the spirilla and the spirochetæ. The former have short, open spirals; the latter long and closely wound spirals. The *spirillum volutans* is often found in drinking-water and, in common with some other specimens of this class, is provided with flagella, sometimes at both extremities, which furnish the means of their rapid locomotion. The spiro-bacteria multiply by spores, although little is at present known of their

life-history. They not infrequently are attached together at their extremities, forming zigzag chains.

In this brief description of the principal varieties of bacteria (classified according to their form), we have seen that they differ



FIG. 3.—Desmo-bacteria (Bacilli). A, *Bacillus tuberculosis* ($\times 2,000$); B, the same ($\times 350$); C, *Bacillus anthracis*, from the blood in splenic fever ($\times 750$); D, *Bacillus lepræ*, showing bacilli in cells isolated from tuberculous nodules by teasing ($\times 1,000$).

greatly in appearance, from the minute dot of the micrococcus and the elongated dot of the bacterium proper, to the elongated rod or cylinder of the bacillus and the long spirals of spiro-bacteria. It is unfortunate that these minute forms of life are not sufficiently constant in habit to always attach themselves to one or the other of these genera. The micrococcus has a habit of elongating until it is impossible to recognize him except as a bacterium; while bacilli break up until their particles exactly resemble the micrococci. Again, there are other forms which cannot be classified with the above; but I will not at present burden you with the complicated forms of *fungi* which are found existing as moulds, yeast-plants, etc., but will pass to the consideration of the *biology of bacteria*.

Bacteria cannot exist without water. Certain forms require oxygen, while others again thrive equally well without it; some thrive in solutions of simple salts, while others fastidiously object to anything less than broths of albuminoid material.

The most important element in the successful multiplication and growth of fungi seems to be the maintenance of certain temperatures. The temperature of the human body is necessary

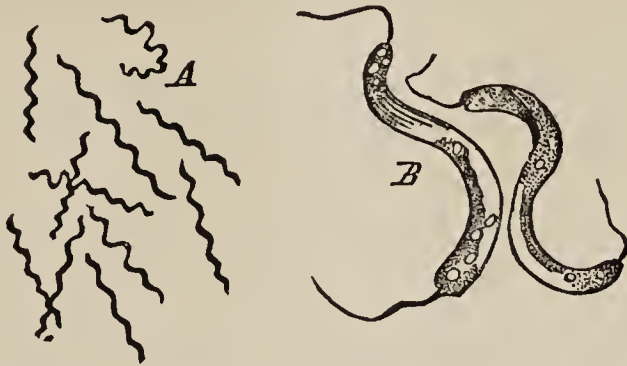


FIG. 4.—Sprio-bacteria. *A*, *Spirochaeta Obermeieri*, from blood in recurrent fever ($\times 1,000$); *B*, *Spirillum undula*, from bog-water, showing flagella ($\times 3,000$). After Dallinger.

for certain pathogenic bacteria, while ordinary temperatures serve for many varieties. Still there are points above or below which all cease to live. Immersion in boiling water rapidly destroys most forms, while prolonged boiling is fatal to all. It appears that while many forms of fully developed germs are easily destroyed by a temperature much less than 212° F., their spores are capable of withstanding high temperature with less risk of injury. The peculiar behavior of each species under observation, must, as regards the effect of heat, be carefully determined, ascertaining the most favorable temperature for their development, and the degree of heat necessary for their destruction. If the conditions of temperature, media, etc., are observed carefully they will develop with extreme rapidity.

In the study of the relation of a given bacterium to a certain disease, it becomes necessary to attend carefully to three different operations.

First, the organism supposed to cause the disease must be found and isolated.

Second, it must be cultivated through several generations in order that absolute purity may be secured.

Lastly, the germ must be again introduced into a healthy living being.

If the preceding steps be successfully carried out, and the original disease be communicated by inoculation, and the germs

be again found in the diseased body—we have no alternative—we must conclude that we have ascertained the cause of the disease. The importance of being familiar with the etiology of disease before we can expect to combat it with any well-grounded hope of success is evident.

The three steps I have alluded to are surrounded with difficulties, and if you will follow me I will endeavor to indicate some of them.

Let us suppose, for example, that we wish to repeat the work of Koch with the bacillus of tubercle. Let me premise by saying that it is believed that certain little rod-like forms are invariably found associated with tubercle. If the sputum of a phthisical patient be submitted to the skilled microscopist he is always able to demonstrate the bacilli. This goes for very little. Because bacilli are found in phthisis it is no more certain that they are the cause of phthisis than is it certain that cheese-mites are the cause of cheese. But if with these bacilli we can inoculate a person, and thus produce tuberculosis, we have the chain complete.

Well, supposing we were to inject some sputum from a phthisical person into the blood of a healthy person, and then boldly announce to the world that you have demonstrated the relation of cause and effect between the bacilli and phthisis. You would start such an uproar of objection as would speedily convince you that there was much work yet for you in the domain of bacteriology.

Among these objections would appear this, and very properly too: "You have injected in the blood of your unfortunate patient pus, morphological elements, and, perhaps, half a dozen other forms of bacteria with the sputum, any one of which are just as likely to produce the lesion as the bacillus you have selected."

So you must begin again. You must first isolate your bacillus.

It is a fortunate fact in the biology of bacteria that nearly every specimen has a peculiar mode of growth. If I were to take a glass plate, one side of which is coated with a thick solution of hot, peptonized gelatine, and allow the latter to cool, the gelatinous matter will become solid. If, now, with a wire dipped in

some tuberculous matter, I draw a line along the gelatine, I have deposited at intervals along this line specimens of *T. bacilli*. If this plate be now kept at a proper temperature, after a few days, wherever the bacilli have been caught, a grayish spot will appear, which, easily seen with the naked eye, gradually spreads and becomes larger. These spots are colonies containing thousands of *T. bacilli*. It is not probable, however, that we have been fortunate enough to have avoided depositing other germs along the line. If putrefactive bacteria are present, they will liquefy the gelatine. Various appearances are thus afforded, even to the naked eye, according to the particular bacterium present, and we soon become familiar with the characteristics of particular germs. Cultures of bacteria are usually made in test-tubes containing peptonized gelatine, coagulated blood-serum, etc. Let us return to our gelatine-plate. We find a spot which answers the description of a colony of tubercle bacilli. We now take a minute particle from this colony on a wire and convey it to the surface of some hardened blood-serum in a test-tube. We plug the tube so that no air-germs may drop in, and place it in an incubator at the proper temperature. After several days, if no contamination be present, a colony of bacilli will appear around the spot where we sowed the spores. Let us repeat the process; take a particle from this colony and transfer to another tube; this is our second culture. This must be repeated until we are satisfied that we have secured a "pure culture." If this be carried to the twenty-fifth generation, we may be assured that there remains no pus, no *ptomaines*, nothing but the desired bacilli. It is a proper material now for *inoculation*.

Practically, many precautions have to be thrown around every step of our work. You can see that spores might accidentally be attached to our tubes. They must be *sterilized*. This is accomplished by exposing them to prolonged high temperature in an oven. Similar precautions are taken with the plug of cotton used to stop the mouth of the tube. The wire must be heated to redness always just before using. We are in constant danger of contamination, and sometimes fail even with the utmost care. Fortunately, we can determine whether everything is as it should

be. If a tube shows signs of admixture, it is discarded at once and another trial made.

Negeli has proposed a "dilution method" for obtaining "pure cultures." He had some urine containing large *micrococci* which he wished to cultivate. The urine also contained numerous *bacilli*. A single drop of the urine, supposed to contain five hundred thousand bacteria, was mixed with about two ounces of pure water and shaken thoroughly. This dilutes the urine a thousand times. One drop of this is now mixed with another two ounces of water, and a millionth dilution was obtained, in which every drop must average to contain one bacterium. He inoculated ten tubes of gelatine each with one drop of this dilution. After incubation it appeared that four tubes remained sterile, one contained bacilli, and five the *desired cocci*.

You will find in our biological laboratory the modern appliances for sterilizing the fluids, vessels, etc., as well as several incubating ovens, the temperature of which may be maintained at a given point for months. The large incubator constructed by Dr. Miller will accommodate several thousand culture-tubes at once.

We have, then, finished the second step in our work, that is, we have obtained our bacilli pure, and have cultivated them through several generations, and it is improbable that our culture-tubes contain any contamination from the original source of our supply of bacteria.

It remains for us to complete the work, that is, we must now reproduce the disease by inoculation with our pure culture. Now we are forced to resort to the lower animals for experiment. No one, as yet, has sufficient admiration for science to inoculate himself. Hence it is impossible to complete a perfect chain of evidence. Objection can be reasonably made to the employment of mice and guinea-pigs. It is just possible that deductions from such experiments would not hold with human beings. But there seems to be no alternative. We proceed to inoculate several guinea-pigs with our pure culture of tubercle bacilli. The following are the results as first obtained by Koch, and which are almost identical with the phenomena obtained in our own work. The

utmost care having been taken to avoid contamination of our virus (by heating the inoculating needle red-hot just before using), a puncture is made through the skin and a few drops of pure culture injected into the loose areolar tissue of the neck.

"The wound generally closes on the second day. The inguinal and axillary lymphatics become swollen on the eighth day. From this time the animals lose weight rapidly, and die in four or five weeks from the time of inoculation. In the spleen and liver the characteristic tubercular changes are found." Koch's results led him to believe that "the bacilli occurring in tuberculous substances were not merely the attendants of tuberculous processes but the cause of them, and that *the bacilli actually represented the true tubercle-virus.*"

I have spoken thus of the tubercle-bacilli in order to give you a general notion of the processes employed, and the precautions necessary in this work. The steps are nearly the same with the bacteria found in other diseases. The same extraordinary precautions are always necessary to avoid contamination. Some thrive in one fluid, some in other, some at ordinary temperatures, some at the body-heat.

From my remarks thus far you may have inferred that it is a very easy matter to find the bacterium of any particular disease, but I must correct this error. Let us place a particle from the discharges of a cholera patient under the microscope. Among the objects filling the field are numerous little curved rods—the comma bacilli. But if you now substitute a drop of fresh normal saliva for the choleraic discharge, you will find little curved rods in every respect like the commas of cholera. I may as well say at once that the microscope alone will not enable us to determine whether a given bacterium is pathogenic or not. You have already seen that each species possess peculiarities of growth in our culture tubes.

Bacteria also frequently afford peculiar chemical reactions. For example, nitric acid will discharge the color from all bacilli, artificially dyed with anilin, *except those of tubercle and anthrax.* One species is stained readily with one dye, that leaves another unaltered. Thus we are enabled in the laboratory to determine

whether the bacilli found in sputum, for example, are from tubercle or are the bacteria of decomposition.

From what I have said of the tubercle bacillus it would seem as thoroughly demonstrated that it was the cause of tubercle in these animals. But we must walk cautiously here. These are not human beings; who knows that like results would follow their inoculation? The animals used by Koch are animals very subject to tubercle.

We must, from the very nature of our environment, be constantly inhaling these germs as we pass through the wards of our hospitals—yes, they are floating in the air of our streets and dwellings. It becomes necessary for us to inquire, If bacteria cause disease, in *what manner do they produce it?* Ziegler says: “The healthy organism is always beset with a multitude of non-pathogenous bacteria. They occupy the natural cavities, especially the alimentary canal. They feed on the substances lying in their neighborhood, whether brought into the body, or secreted by the tissues. In so doing they set up chemical changes in these substances. While the organs are acting normally these fungi work no mischief. The products of decomposition thus set up are harmless, or are conveyed out of the body before they begin to be active.” If bacteria develop to an inordinate extent, if the contents of organs are not frequently discharged, fermentation processes may be set up, which result in disease. Bacteria must always multiply and exist at the expense of the body which they infest, and the more weakened the vital forces become the more favorable is the soil for their development.

Septicæmia is caused by the absorption of the products of putrefaction induced by bacteria. Before bacteria can multiply inside or outside the body they must find a congenial soil. The so-called cholera bacillus must gain access to the intestinal tract before it finds conditions suitable to colonization. They do not seem to multiply in the stomach or in the blood, but once injected into the duodenum they develop with astonishing rapidity. The delicate epithelial cells of the villi become swollen, soften, and break down, exposing the mucosa.

But it becomes us to proceed in this matter with great cau-

tion. We must avail ourselves of every means of research, and patiently endeavor to ascertain what of pure gold there is in this new field of study. The subject is a fascinating one, and it seems to settle, or at least, open the way of settling, so many hitherto difficult questions in pathology, that it has been accepted by many without such a basis of facts as every careful investigator should demand. Another very extensive and important field opened by bacteriology is that of the prevention of disease by inoculation of attenuated or modified bacterial matter.

Pasteur, experimenting with the bacilli of anthrax, found by exposing the microbes to a certain temperature higher than that most favorable for their development, they lost their virulence to such an extent that he could vaccinate sheep without danger; and that animals so vaccinated were, for a given time, rendered incapable of contracting anthrax. Various opinions are held regarding the value of these experiments at present. You are all familiar with the newspaper accounts, at least, of Dr. Ferrán's experiments with the cholera inoculation. We are not at the present time able to speak with any degree of positiveness regarding the value of this work.

What is to be the future of the very interesting and fascinating studies to which I have this afternoon briefly directed your attention, no one as yet can determine. It is in the hands of ardent students, who are everywhere carrying out new investigations, and I shall not burden you with my own opinions in regard to it. The great question at present to be settled is, whether we are about discovering the ultimate cause of many hitherto obscure pathological states, or whether these microbes are only bacteria of health taking advantage of diminished vitality to develop with increased rapidity—*whether they are the cause or the scavengers of disease.*

VACCINATION FOR CATTLE-PLAGUE.—The success of Pasteur's method of vaccination for the cattle-plague in India is said to have been brilliant. It was used for elephants, cattle, horses and sheep.

EXPERIMENTAL PATHOLOGY.

OF ALTERATIONS IN THE PULMONARY STRUCTURE OF DOGS BY
THE INHALATION OF THE SPUTA OF PHTHISIC PATIENTS,
AND OF OTHER ORGANIC SUBSTANCES.

BY W. WARGUNIN.

Although the idea of comparing the pulmonary lesions produced by the inhalation of the sputa of phthisic patients, and of other organic substances, originated with Prof. Manassein, it was in the laboratory of Prof. Rajewski that the researches were prosecuted.

The method by which the author aimed to secure the desired results was the exposure of a dog to the constant inhalation of an infected vapor, the animal being placed in a box properly constructed to insure thorough passage of the vapor employed in the experiments. This vapor was charged with a liquid containing, in a pulverulent form, the sputa of phthisis taken from emphysematous patients, mixed with cheese and flour, and the dog was thus confined to an atmosphere fully charged with solid particles of infected matter. In some cases the sputa had been disinfected with phenic acid. The liquids that were to be pulverized were of a milky consistency. Between the experiments, the dogs were placed in cages exposed to free air.

In a first series of experiments, the pulverized liquids contained the sputa of phthisis, diluted and filtered through linen to remove the coarser particles.

The entire eleven dogs submitted to these tests presented pulmonary lesions.

In a second series, the liquid contained sputa, which the author had tried to sterilize by the addition of two parts of phenic acid to 100 of the filtered liquid, and by boiling it three times at intervals of two or three minutes. Similar lesions were again obtained.

In a third series, the pulverized liquid, containing either sputa of emphysematous patients, cheese or flour, furnished the same results. The author concludes that these lesions were not the result of a specific element.

Wargunin made the histological examination of the lung matter of these lésions, in order to study their nature.

He first reports a case shown to him by Rajewski, referring to the pulmonary substance of a cat, in which, to the naked eye, it seemed like that of miliary tuberculosis, and resembled pneumonic nodules.

The lesion observed in a dog had also the form of nodules, constituted by groups of unfiltered alveolæ, having a little bronchia in the centre. In most cases the cellular wall of this bronchia was thickened. No giant cells could be anywhere detected. With a 300-diameter magnifying power, these nodules appeared to be formed of young cells, fusiform in appearance, and these being destroyed, the walls of the lobular bronchia penetrated into their cavity and obliterated them. These masses of young cells contained no blood-vessels, and underwent fatty degeneration. The alveolæ next to the obliterated bronchia were often atelectasiated. The alveolæ showed the same masses of new cells, with destruction of the walls, and the same fatty degeneration, but no caseous changes. The lesion seemed to start from the bronchial walls and to extend on one side to the bronchial cavity, and on the other to the alveolæ. The author does not, then, consider these lesions to be tuberculous, but to be those of lobular-bronchopneumonia. He had begun his researches before the discovery of the bacillus of Koch, and now asks if this micro-organism possesses the etiological value attached to it, and if tuberculosis is truly a contagious and parasitic disease.—(*Revue de Sciences Medicales.*)

UPON THE TUBERCULOSIS OF THE UDDER OF THE COW, AND TUBERCULOUS MILK.

By B. BANG.

Professor Bang, of the Veterinary School of Copenhagen, has examined twenty-seven tuberculous udders of cows. Tuberculosis in the cow often affects that organ, and often begins there; in all the cases the milk contained tuberculous bacilli, and frequently in great quantities. Inoculations made by him always gave positive results; in some animals very rapidly. Feeding

with the milk produced tuberculosis in all the animals that partook of it. Contrary to the opinion of Koch, he believes that the milk of a phthisical cow may contain tuberculous bacilli; even when the udder is sound.—(*Ibid.*)

TUBERCULOSIS AND GLANDERS.

BY MR. CHERRIN.

A series of experiments was instituted to decide whether, as differing from syphilis, tuberculosis and glanders can be inoculated to an individual already tuberculous and glandered. The results showed that ten guinea pigs, of which three were evidently tuberculous, with both local and general symptoms, were again successfully inoculated with tuberculosis. Two others presented ulcerations at the seat of the second inoculation, the ulcers having the microscopical aspect of tuberculous ulcerations, but containing no bacilli. (These are not counted in the statistical report of the experiments.) Three guinea pigs, with lesions of glanders, were also re-inoculated with the virus of the same disease, and in all three, a second chancre made its appearance at the point of the second puncture.

The conclusion is adopted that these two diseases are re-inoculable in individuals previously affected.—(*Ibid.*)

AMERICAN VETERINARY COLLEGE.

HOSPITAL DEPARTMENT.

REPORT OF CASES BY J. SCHEIBLER, D.V.S., House Surgeon.

POTT'S DISEASE—CARIES OF THE CERVICAL VERTEBRÆ.

On the 26th of August Dr. Liantard was called to visit a patient, and received the following history: On the morning following a day's work, some two weeks previous, the horse was found stiff all over, and unable either to back out of his stall or to move forward. The owner had supposed him to be foundered, as he termed it, and had placed him under treatment of his own devising, consisting in a severe mustard plaster upon the whole

inferior surface of the neck, under the chest, on both sides of the thorax, and over the lumbar region. The condition of the animal during this treatment continued unchanged. He was unable to move, except with great difficulty, or to lower his head to drink from a pail of water, or to pick up food placed on the ground, but otherwise his health appeared to be perfect. When Dr. L. visited the horse, he found him with a thick swelling all along the lower border of the neck, extending down between the fore-legs and under the chest; and the parts which had been covered with mustard, covered with a thick crust, more or less dry, which were falling off in spots. Failing to detect any other symptoms, and attributing all the symptoms to the peculiar condition of the blistered parts, simple treatment for the removal of the scabs was directed, with advice to report again in a short time. Early in October, the animal being reported to be no better, it was decided to have him brought to the hospital, and he was entered on the 9th instant, having walked down from the place, a distance of about fourteen miles.

When admitted, the horse was in fair condition, and every function was normal, except that of locomotion. His head and neck were held in an upright position, the inferior border forming a convex line forward, and presenting a good example of the peculiar formation called "*deer neck*." On the upper cervical region the muscles were much atrophied, principally on the left side, and at about the middle of the region it seemed as if there had been a giving way of some soft structure. The head could not be carried downwards, and the lateral motion, either to the left or to the right, was very limited and very painful. All his movements were awkward, and when called upon to walk, he obeyed with great difficulty, and at times as if he had lost partial control of his actions. In walking, he moved much like an animal suffering from laminitis.

The animal was evidently in a critical condition, and while a positive diagnosis was reserved, the state of the superior cervical region suggested the possibility of degeneration of some kind, either in the muscles or in the ligamentum nuchæ, or possibly of disease of the vertebræ.

While under observation, nothing was specially observed beyond

the difficulty of lowering the head, and that, when food, solid and liquid, was placed before him on the floor, he was unable to pick it up, and pawed actively with his fore feet, until the food or the water was brought within his reach. It was also noticed that his control of his movements seemed to diminish day by day, and his actions to become more difficult and irregular.

On the morning of the 18th he was found lying down, on the left side, unable to rise, and when raised with slings, to be unable to stand. Permission to destroy him was then obtained from the owner, and a post-mortem was held.

The skin upon the right side being carefully removed, the muscles were dissected, layer by layer, until the vertebræ and ligamentum nuchæ were reached, but nothing was found worthy of note, except that the cellular tissue between the muscles was more or less infiltrated with serosity. The body was then turned over, and the same course followed as on the right side. On this side the muscular structure had undergone a thorough change, and had become a jelly-like mass, from the infiltration of serum throughout, with a softening of the muscular fibres.

The cranial cavity was then opened, and the brain removed. The left hemisphere was somewhat softened and congested; the right hemisphere being also slightly congested on the anterior part. The bones of the cervical region being boiled and cleaned, the fourth and fifth cervical vertebræ were found diseased, and presenting the following characteristics: In the fourth, which was unusually large, the articular cavity of the body was extensively ulcerated for more than two-thirds of its extent, and not only was the cartilage destroyed, but the bottom of the cavity was irregular and exposed the spongy substance of the body of the bone. In the fifth, the head of the body was irregularly roughened, and the cartilaginous covering all destroyed, and even a large amount of the spongy substance had disappeared to such an extent that the articular part of the bone had become transformed into a rough and irregular surface. The inferior face of the bodies of both vertebræ, the superior face, which forms the floor of vertebræ canal, and the cavities of the trachelian foramen of the fifth vertebræ was covered with calcareous deposits, resulting from the extensive periostitis which covered the bones.

NAVICULAR DISEASE, OF LONG STANDING, IN A HIND FOOT—
SOFTENING OF THE PERFORANS TENDON—BREAKING
DOWN—DEATH.

BY THE SAME.

A bay gelding, of seven years old, was found to be lame at the first visit of the groom, and Dr. L. was called to see him.

The animal was standing in his stall, very lame in the off hind leg, with lancinating pains, and was with difficulty backed out. The shoe was taken off and the foot carefully examined, but without detecting anything about that region to account for the severe lameness. The appetite was poor, the temperature 102°, and pulse about 50, and respiration increased. The visible mucous membranes were slightly yellowish, and it seemed that some heat and swelling could be detected at the hock and at the hip joint. A diagnosis of inflammatory rheumatism was made, and the patient was placed under salycilic acid, 3 ij. *ter. in die*, with warm fomentations, etc. Close examination failed to discern either improvement or change, until the third day, when a few drops of suppuration were observed between the glomes of the frog, almost in the middle, and directly over the posterior commissure of the middle lacunæ of the frog. A small collection had taken place under the frog; it was the result either of a bruise, on a punctured wound, or of a furuncle of that part. The lameness remained the same, and the general condition was without change.

The animal was then brought to the hospital. The frog of the foot was removed, and a small punctured wound, such as might be made with a small wire, was found, and scarcely sufficient to explain the excessive lameness and the great suffering.

For two successive days there was no change, but the same lameness and pain; the temperature and pulse continuing high, though the appetite continued pretty fair. On the 16th, the sixth day of the attack, no suppuration was found in the foot, but a few drops of synovial fluid appeared. The posterior part of the coronet was slightly swollen, and, on examination, gave a feeling

ture, or deep gathering of pus. Iodine, externally, with cold water and bandages, were applied on this, while antiseptic dressings were applied to the foot, and alcoholic stimulants and tinc. opii were given to keep him quiet.

On the 17th of October, the animal was attacked with violent colicky pains and nervous twitchings; his body became covered with profuse perspiration; and at one time he seemed to be delirious with pain. He was quieted with tinc. opii and chloral.

The foot was all healed, and on the 18th of October, following day, a ball of aloes was given to relieve the constipation.

On the 21st, the animal seemed more comfortable. The violent lancinating pains had somewhat subsided, and there seemed to be an improvement in his general condition. There was a lower temperature, with a better pulse and appetite. A blister which had been rubbed on the back of the coronet seemed to have relieved him, and the scabs were washed off.

Oct. 27th.—The animal appeared to rest his foot comfortably on the ground, with perhaps a slight tendency to elevation of the toe.

Oct. 28th.—A splint of leather sole was applied as a support on the lower part of the limb, and kept up with a linen bandage.

Oct. 30th.—The removal of the dressings leaves no more doubt as to the lesions which have existed. The foot in resting down, does it principally with the heel, while the toe is turned upwards. An abscess has formed and ulcerated on the outside of the posterior part of the coronet. It is a true case of breaking down.

The animal was destroyed.

On post-mortem examination, the frog was found perfectly healthy. There were strong adhesions of the plantar aponeurosis over the entire surface of the posterior face of the navicular bone, which was extensively ulcerated and covered with caries in its whole extent. It was roughened, and its fibro-cartilaginous coverings had entirely disappeared. The tendon of the flexor pedis perforans was ruptured a little above its attachment to the navicular bone. The stump of the tendon had become a softened, degenerated mass, about half an inch in length, and

of puffiness, which suggested a softening of ligamentous structure showed on the side, where it was continuous with the tendon, an irregular red line of demarcation, with the beginning of a sloughing in the neurotic tendon. The articular surface of the os corona, corresponding to the os sesamoid, presented an ulcerated spot of the size of the head of a shawl pin.

RACHITIC HORSE—OPERATIONS FOR SQUIRROUS CORD—FRACTURE OF DORSAL VERTEBRÆ.

BY THE SAME.

The history of this case is interesting on account of the extent of the lesions that were found at the post-mortem, and which tend to corroborate the theory that in many cases of fracture of the vertebræ, during the struggles of an operation, the accident is due principally to a predisposition in the patient, resulting from an already existing diseased condition of their bones.

A gray gelding, some 11 years old, was suffering with a small champignon of the left side, which, however, had never interfered with his work, though it had made the horse unpleasant to his owner during the warm weather, on account of the discharge and of the odor resulting from it. For this reason the owner desired to have an operation performed, notwithstanding its various attendant dangers, of which he was thoroughly informed. The animal was accordingly prepared, on the morning of the 5th of November, receiving a seven drachms ball of chloral, and about two hours later was cast on the right side. The near leg was secured, and the operation performed in the usual manner, without any very violent struggling on the part of the animal. The operation having been completed, and the hobbles removed, he rose to his feet, after some little interval of time, but without apparent difficulty, walked to his stall some thirty feet off, and proceeded to eat his breakfast. He had not been thus engaged more than ten minutes when he began to betray uneasiness, com-

mencing to paw, to kick with his hind feet, and to throw his head from side to side, and as he was being carefully backed out of his stall, to be placed into a box stall, he fell down and passed into a deep sleep. After remaining thus about half an hour, he seemed to waken, and his circulation, which had fallen to 30 pulsations, began to rise, his respiration also becoming more accelerated, a rather abundant respiration showing itself at the flanks and in the scrotal region.

After making a few ineffectual attempts to rise, he at length, with some assistance, succeeded in gaining his feet. He was then led to the box stall, when he fell again; rose again; entered the stall; moved about in it a few moments, and once again fell prostrate, to stand on his feet no more.

From this moment to the end of the second day, the animal never made another attempt to rise, but laid quietly, on his right side, and it was only toward the middle of this second day that he made any manifestation of pain, by the constant motion of the two fore legs.

The diagnosis could not be doubtful. The animal was suffering from fracture of the vertebræ column, received during the operation, notwithstanding his partial anæsthesia and the mildness of the struggles he had made while under the knife. He had lived thirty-six hours after the accident.

On the post-mortem, the lumbar vertebræ were found to be the seat of the injuries. The body of the fourth was crushed into several pieces; the fifth and sixth were ankylosed and exhibited a large bony growth at their inferior face, the same lesion existing also between the sixth and the first sacral. Besides these, the superior spinous process of the last three lumbar, and those of the first two sacral, were fractured across their middle. These bones, when boiled and cleaned, in order to expose the broken fragments, were found in that dry condition to be so brittle as to be easily broken by the least pressure of the hand. The sacrum, as well as the other vertebræ, had also undergone the rachitic degeneration, which undoubtedly had predisposed them to be so easily fractured.

REPORTS OF CASES.

CASES FROM A NOTE BOOK. BY C. C. McLEAN, V.S., (Meadville, Pa.)

HYDROCHLORATE OF COCAINE FOR NEUROTOMY.

I performed neurotomy on a valuable pacing gelding, August 17th, for navicular arthritis, the case having failed to yield to any of the usual methods of treatment. I cast in the ordinary manner and used half a drachm of four per cent. solution cocaine hypodermically over the tract of the nerve, on each side of limb, at point of section, and removed over an inch of nerve. No manifestation of pain shown during entire operation, except slight movement when cutaneous incisions were made. Above case was the second opportunity I have had of testing cocaine in neurotomy, making a short and painless operation with no evil results.

CÆSAREAN SECTION IN THE SOW.

A sow had been in labor twenty-four hours, and farm hands had tried all manner of means to effect delivery, and in so doing had lacerated and excoriated the vulva and vaginal passage to such an extent that it would have been a difficult matter to have delivered her had everything been natural. On close examination, I found an osseous growth of ischio-pubic symphysis to be the cause of the dystokia, and from the efforts made before I was called, both hind legs and one fore one had been pulled off a pig. I lost no time, after my examination, in securing the sow, and made an incision in right flank, from near point of ilium downward far enough to enable me after incising the uterus, to remove five large living pigs and the mutilated dead one and envelopes. After cleansing uterus thoroughly, I closed the opening in same with eleven carbolized gut sutures, and the abdominal incision with nine wire and gut sutures. I feared an unfavorable termination on account of severe inflammatory action caused by the previous unsuccessful attempt of the neighbors. The operation was performed a portion of the time under antiseptic spray

and a stimulating and anodyne draught prescribed afterward. Next day, on calling to see my patient, words cannot describe my surprise to find her ladyship and four of the pigs, one having died the previous night, in a mud hole in the pig yard. Her owner stated that she felt so well he thought she was better out in the yard, and she never missed a meal after that time. An antiseptic wash was used in vagina, and she will be operated on next time by the butcher.

POST PARTUM PARALYSIS FOLLOWING DIFFICULT DELIVERY.

A two-year-old Holstein heifer at term had labored seven hours when I first saw her. Water had escaped during first pains. Examination revealed large foetus, but presentation normal; passage devoid of moisture. After the introduction of a quantity of lard and repeated injections of oleum olivæ and proper traction by two able assistants, delivery was accomplished; heifer recumbent at time. A reviving drench was administered. Heifer properly clothed and left for the night, during which the placentæ was cast. Next morning found her unable to rise. On the approach of a dog she made desperate efforts, but had no control of either fore or hind limbs. Moaned continually. Examination of uterine horns revealed nothing; ordered hand rubbing and gave laxative, and used catheter, as urine was retained; gave enemas and hypodermics of strychnine sulph. gr. i., and turned her over every two hours. On third day she is able to stand with some assistance, but stands behind, with feet back, weight resting on metatarso phalangeal articulation. When forced to move, staggers about and joints snap and crack, but improving rapidly. On fifth day she shows no signs of having been sick.

SECOND CASE.—A two-year-old Holstein, at term; stable attendant visits her at 10:30 P. M. Udder not full, nor any evidence to lead him to think she would give birth that night. At five o'clock next morning she is found in her box with dead male foetus behind her, not large, but there is well marked evidence in stall that she has labored hard. Placentæ still retained; heifer unable to rise; symptoms same as first case. Placentæ removed, and treatment same.

3d day. Heifer is up and has done well. I mention these two cases as both occurring on one farm the same day; caused undoubtedly from protracted labor. Furthermore, such cases are not common among heifers. Both owned on a breeding farm and well cared for and well nourished.

GENERAL MELANÆMIA IN A VALUABLE STALLION.

BY A. D. GALBRAITH, D.V.S., (Greensburg, Ind.)

I was called October 23, 1885, by Mr. Buck Dickerson, horseman of this city, to see his noted trotting stallion Pilot Duroe, sire of a large number of flyers in this part of the country.

The horse was a light iron gray, medium size, and twenty-one years old. He served mares in Kentucky the last season, was brought back home in the summer, and at the time the owner refused \$2,500 for him.

The history of the case is: about three weeks before I was called the horse seemed to be out of condition. Mr. Dickerson thought the trouble but slight and would pass off, but he gradually grew worse and on the 23d of October Mr. Dickerson became alarmed and sent for me. I found the horse stupid, breathing laboriously, and it caused him considerable pain to move; his pulse was about 80, temperature 105°; abdomen considerably distended, and œdematous swelling on the belly and sheath.

Rectal examination revealed: First, an abnormal growth in the superior pelvic region above the rectum, from one to two inches thick, from two to three inches broad, and about eighteen inches in length. Second, in the posterior part of the abdominal cavity, the hand came in contact with a tumor as large as a man's head, which seemed to be attached to the sub-lumbar region, and other smaller growths could be reached; all seemed to be very sensitive, and the examination was very painful to the horse.

The distention of the abdomen proved to be caused by fluid. Diagnosis—Ascites, caused from melanotic growths in the abdominal cavity. Prognosis—fatal.

As the case was an important one, I telegraphed my friend,

Dr. O. W. Snyder, of Rushville, twenty miles north of me, who arrived, and upon examining the case confirmed the above.

As the owner wanted the faithful old stallion kept alive as long as possible, I put him under digitalis, alcohol and nutritious diet, also laxatives, using astringent applications to the enlargements on belly and sheath. The horse improved. On the 24th, pulse 60; temperature 103°; on the 25th, pulse 50; temperature 101°; on the 26th, pulse about normal; temperature normal. The distention of the abdomen seemed to be lessening until about the 2d or 3d of November, when he began to rapidly fill again, and on the 4th I performed paracentesis-abdominis and allowed twenty gallons, actual measure, of fluid to escape, about, three-fourths of all, which relieved him considerably at the time. The fluid was about the color of highly colored urine. The horse did well, considering that, up to the 12th, when he filled and weakened rapidly and was bloated over the lower part of the body and extremities. His appetite was reasonably good up to the 14th, after which he ate no more. On Sunday morning, the 15th, he expired. I did not get to hold a post-mortem until Monday morning, when he was enormously swollen and smelled very badly. I laid open the entire abdominal and thoracic cavities. The abdominal cavity contained not less than twenty gallons of dark brown fluid. The peritoneum mesentery was a complete mass of melanotic deposit, from one to two inches thick. The kidneys were covered with the growth and a great many deposits through them, they both containing from one to two ounces of dark yellow pus. The spleen was enlarged and contained a mass of melanotic growths. The liver was also covered and contained melanotic deposits.

The large tumor found before death was as large as a man's head and weighed twelve pounds and was attached to the sub-lumbar region. The first growth found was as previously described. There were not less than fifty pounds of melanotic growths in the abdominal cavity. The thoracic cavity was normal, so far as could be made out. The cadaver was in a very bad condition, from laying too long, and it was impossible to make a minute post-mortem.

SANITARY LEGISLATION.

CONTAGIOUS DISEASES AMONG CATTLE.

REPORT OF THE VETERINARY COMMITTEE TO THE NATIONAL CATTLE
GROWERS' ASSOCIATION.

To the Convention of the National Cattle Growers' Association.

MR. PRESIDENT AND GENTLEMEN :—We have the honor to submit the following report, adopted by the veterinarians and sanitary boards from the different States and Territories, at a convention held by them in Chicago, November 16 and 17, 1885, to wit :

There exists throughout the United States a large number of contagious diseases affecting our domestic animals, which are most harmful to the agricultural and stock raising industry, which entails great losses on the producers of the domestic animals, and some of these diseases can be communicated to man, causing severe illness and death. These contagious diseases are communicated from the diseased to healthy animals, by contact of the animals or by placing the sound animals in localities previously occupied by the diseased ones. Most of these contagious diseases have been imported into the United States from foreign countries, and are to a great extent still confined to limited localities, the majority of them in the Eastern States. Other of these contagious diseases are indigenous to the American continent, but are confined as yet to limited localities. All of these contagious diseases are spreading with variable rapidity, and are surely increasing. The violence and contagiousness of these diseases are variable, some being excessively dangerous, some only moderately so, some affecting several species of animals, some confined to a single species. Of these contagious diseases, pleuropneumonia in cattle, hog cholera, Texas fever, tuberculosis, and glanders in horses, are prevalent throughout a large portion of the United States, and are on the increase, destroying thousands of animals each year, and are injuring our commerce, both inter-State and foreign, to the extent of millions annually. These contagious diseases are propagated only by submitting sound

animals to contact with diseased ones, or with objects with which the latter have been in contact. The majority of these diseases cannot be cured when they have attacked an animal, but the occurrence of the majority of them can be prevented by proper precautions, which consist in preventing the communication of the sound animals, with objects bearing the contagion. In view of the immense wealth of the United States, especially in the West, centered in the industry of raising and exporting animals; in view of the increase of contagious diseases, which is surely bringing a scourge on this country, and in view of the present inharmonious and inadequate legislation in regard to these diseases, it behooves us to urge the necessity for immediate, prompt and forcible action to suppress the existing causes of disease, and to prevent their future spread. State laws are excellent, but insufficient, as they are unable to control the approach of disease from neighboring States which are less wise; neither can they prevent animals from a State which has maintained their soundness by constant care, from exposure to infection while passing through other States to distant markets, nor can they prevent the passage of diseased animals across the State to other States and Territories. It is necessary that we should have uniform and general laws, rigidly enforced, which will protect all alike. This can only be done through the general government of the United States, and while costly, will prove the most economical in the end. While we desire laws of sanitary police, which will protect us against all the contagious diseases of our domestic animals, we urgently appeal to the general and State governments for the appointment of a sufficient number of competent agents with the funds necessary for the immediate suppression of contagious pleuro-pneumonia in cattle, glanders in horses, hog cholera, and the restriction of Texas fever to the localities where it is indigenous.

Until we have other means at our disposal for the prevention of these diseases, we have but two lines of action to adopt—the absolute extermination of all animals which are affected with the disease, or have been so exposed that they may convey it to others at a longer or shorter period; the absolute interdiction of

all commerce in the domestic animals from localities which contain affected animals, or from which the source of contagion can be conveyed. The details of procedure for these cases will be the result of mature deliberation, requiring more time than we have at our disposal here, but the facts are indisputable. Other countries to their cost have procrastinated as we are now doing, and have paid for it in immense losses, and the ruin of their cattle trade.

Respectfully submitted,

J. D. HOPKINS, D.V.S., Wyoming Veterinarian.

PROF. C. B. MICHENER, D.V.S., Am. Vet. College, N.Y.

L. McLEAN, M.R.C.V.S., Brooklyn, N. Y.

D. E. SALMON, Chief Bureau of Animal Industry.

J. L. BRUSH, Pres. Sanitary Board of Colorado.

PROF. R. S. HUIDEKOPER, Pres. (Member Ex. Officio.)

REVIEWS AND NOTICES.

WIRCHOW'S POST MORTEM EXAMINATION. A new, revised and enlarged edition. (P. Blackiston, Son & Co., Philadelphia, Pa.)

Here is an excellent little work, which, though prepared principally for human practitioners, will prove most interesting and valuable to veterinarians as well. The difficulties often present in the post mortem examinations of our domestic animals, and especially of the large ones, such as horses and cattle, would be greatly diminished if veterinary surgeons who conduct them would adopt certain rules and methods of procedure. But so long as the subject of post mortem investigation is ignored in the majority of our veterinary colleges, and perhaps for good reasons, we feel sure that veterinarians cannot find a better way to educate themselves in that speciality than by the careful study of Wirchow's post mortem rules.

L. & B.'s PHYSICIAN'S VISITING LIST for 1886. (P. Blackiston, Son & Co., Philadelphia, Pa.)

This, the thirty-fifth edition of this publication, is provided with many points of advantage and use to veterinarians. Why

not make a Veterinarian Visiting List? Few alterations in the list at present in use would, no doubt, make it a book which would be greatly in demand.

NOUVEAU DICTIONNAIRE PRATIQUE DE MEDECINE, DE CHIRURGIE, AND D'HYGIENE VETERINAIRES. By H. Bouley, &c. Tome 13.

This is the thirteenth volume of an excellent encyclopædia, started many years ago, and containing the work of authors who have become the leading authorities in France in veterinary medicine. The present volume contains articles from the pens of Prof. Barrier, Bouley, Laulaine, Neumann, Nocard, Railliet, Sanson and Trasbot. Amongst the various subjects treated is that of glanders, by Prof. Bouley, in an article of over one hundred pages. This forms a most excellent treatise on the subject, bringing forward our knowledge from the very earliest history of the malady to our own day, and introducing the most recent of the theories of the pathology of the disease.

This excellent volume completes one more important page in veterinary literature, and adds a fresh laurel to the chaplet already well earned by the successful labors of the author, to whom the veterinary profession of the world owes so much.

CORRESPONDENCE.

VETERINARIAN WANTED.

Dear Editor :

Having given up my practice in Norwich, Conn., I would like to ascertain through the REVIEW if there is not some graduate who would like to settle in the above mentioned city. It has a population of twenty-two or three thousand inhabitants, and is surrounded with towns of between six and twelve thousand more. There are no regular veterinarians within sixty miles. Any one wishing for further particulars can have them by directing to

W. D. CRITCHERSON.

SOCIETY MEETINGS.

INDIANA VETERINARY ASSOCIATION.

The Veterinary Association of Indiana met in convention in their rooms in Menachor Hall, in Indianapolis, on the 16th inst., pursuant to adjournment, for the purpose of electing officers and transacting other important business. The following members answered to the roll-call: Drs. John N. Navin, Sr., E. H. Pritchard, A. W. Phillips, L. A. Grisner, Sr., T. L. Armstrong, J. N. Navin, Jr., Robt. M. Navin, John Colville, John C. Stuart, Wm. Langtry, W. R. McLane, Geo. A. Lowery.

The ballot for officers resulted in the election of Dr. J. N. Navin, Sr., President; Dr. J. Colville, 1st Vice-President; Dr. T. L. Armstrong, 2d Vice-President; Dr. L. A. Grisner, Sr., 3d Vice-President; Dr. W. R. McLane, Corresponding and Recording Secretary; Dr. A. W. Phillips, Treasurer; Drs. John N. Navin, Jr., G. A. Lowery and J. C. Stuart, Board of Censors.

THE ILLINOIS VETERINARY ASSOCIATION.

The Illinois Veterinary Association met at the Sherman House, Chicago, Nov. 12. Dr. Paaren introduced the subject of dishorning cattle. Mr. H. H. Haaf, a prominent farmer of Henry Co., Ill., advocated the practice. He had been led to experiment in this direction by hearing and knowing of so many cases of injury to persons by vicious cattle. He saws off the horns about an inch from the brain. No blood is lost and the animal suffers no pain. He thinks public opinion favors the practice.

Several members reported treatment of specific cases of disease.

A motion to amend the constitution, deferred from the last meeting, was brought up for consideration. It recommended the restriction of membership in the Association to graduates of recognized veterinary colleges. Dr. Paaren said he had found the diagnosis of diseases made by some men who enjoyed common sense and experience, but no thorough knowledge of anatomy or medicine, was often very imperfect. Their prescriptions in nine cases out of ten were evidences of their ignorance of chemistry. It is an injustice to qualified practitioners to admit such to membership and equality, merely on the ground of experience. The question was discussed by several members, who, with Dr. Wilson, the originator of the motion, supported it. The amendment was adopted unanimously by a rising vote.

A motion was discussed imposing a fine of \$10 on members who failed to present an essay when assigned to them. Dr. Paaren amended the motion so as to allow an oral discourse instead. The amendment was finally adopted.

A motion was made to suspend the rules and change the time for electing officers from the annual meeting in the spring to the semi-annual meeting in November. The motion was carried.

It was also voted to hold all future meetings in Chicago.

The Association participated in a banquet.—*From the Prairie Farmer.*

NEWS AND SUNDRIES.

DISINFECTION.—The experimental evidence on record indicates that the following named disinfectants are the most generally useful, from a practical point of view: *Moist heat.*—A boiling temperature quickly destroys all known pathogenic organisms in the absence of spores. A temperature of 230° Fahr.—steam under pressure maintained for ten minutes, will destroy spores. *Chloride of lime.*—A four per cent. solution quickly destroys all micro-organisms, including spores. Labarraque's solution (liquor sodæ chlorinatæ,) is equally efficient when of corresponding strength. *Mercuric Chloride*, in aqueous solution, in the proportion of 1-10,000, is a reliable agent for the destruction of micrococci and bacilli in active growth, not containing spores; in the proportion of 1-1,000 it destroys the spores of bacilli, when they are fairly exposed to its action for a sufficient length of time (two hours). *Carbolic acid* cannot be relied upon for the destruction of spores. This agent is recommended for the disinfection of the excreta of patients with cholera (five per cent. solution). A two per cent. solution may be used for disinfecting clothing, etc. *Sulphate of Copper* is largely used as a disinfectant in France. It is efficient in the proportion of one per cent. for the destruction of micro-organisms without spores; for excreta, use a five per cent. solution. *Sulphurous acid gas* is the most useful gaseous disinfectant, and is mainly relied upon for the disinfection of ships, hospital wards, etc. It is important for the destruction of spores, and exact experiments show that its disinfecting power, as determined by biological tests, has been very much over-estimated.—*Science.*

INCREASE OF ANIMAL DISEASES.—The natural deduction is that so long as we must resort to slaughter, ample and uniform powers must be given and maintained throughout the States to condemn, kill and recompense. At the same time the most liberal government expenditure is demanded for investigations into causes and treatment of the diseases. The losses by swine plague alone during the last five months reach so far up into the millions that the paltry thousands expended by the National Cattle Com-

missioners and by the State Commissioners seem insignificant in the extreme. All that science, money and stern lawful authority can do must be invoked, or these losses will continue to multiply until a prominent national interest becomes paralyzed. Congress may well stop tariff tinkering and President-making, and look after the welfare of our great live-stock interest, which are now threatened with dangers demanding instant attention.—*Prairie Farmer*.

SANITARY MEASURES.—The following resolution was very properly adopted by the Board of Live-Stock Commissioners of the State of Illinois, at its session, November 4th:

Whereas, It has been made known to the Commissioners that a considerable traffic in the carcasses of swine which have died from the effects of hog cholera is being carried on in this State, both over highway and railroads; and

Whereas, The best veterinary authorities are of the opinion that the said disease of hog cholera is transmitted and spread to a great extent by said traffic; and

Whereas, The law of the State of Illinois provides that "Any individual who shall knowingly sell, receive, convey, or engage in the traffic of diseased or exposed stock shall be guilty of a felony, and upon conviction thereof be imprisoned not less than one nor more than ten years in the penitentiary, and fined not less than \$500 nor more than \$5,000 for each and every offense, and shall become liable for any and all damage or loss that may be sustained by any party or parties resulting from exposure to said disease;" therefore,

Resolved, That the Secretary of this Commission be, and is hereby, instructed to notify all railroad companies doing business in this State of the dangerous character of the traffic herein referred to, warning them of the penalties of the law; also that he notify all veterinarians throughout the State that it is their duty to report to this Commission all violations of the statute herein quoted; also that he give to the press of the State a copy of this resolution, so that all persons may be informed as to the terms of the law.—*Prairie Farmer*.

THE VETERINARY PROFESSION IN THE UNITED STATES.—The question of veterinary colleges is one of great importance to the country and to the profession, and the danger that, in getting to recognize the diploma of graduation as an essential condition to

the practice of veterinary surgery, we may get to multiplying colleges until, as is the case with some of our numerous classical colleges, they become simply diploma mills, and the value of the diploma is so minimized as to make it hardly worth preserving. It will not do to let a course of lectures on veterinary subjects, *suitable for non-professionals*, usurp the place of a regular veterinary college course, under a competent faculty. The influence of our Agricultural and Stock Associations should be exercised to secure such legal recognition of the profession as will tend to encourage graduation at a leading veterinary college as a necessary antecedent to successful practice as official position. We do not want to encourage a multiplicity of veterinary colleges, but the establishment of a few, and the maintenance in these of a high standard of merit as a condition of graduation. By this means only can a diploma mean something.—*National Live Stock Journal*.

PROPHYLACTIC TREATMENT OF HYDROPHOBIA.—The following extract from a letter of Mr. Louis Pasteur, to Professor Jules Marcou, dated Arbois (Jura), France, Sept. 7, is kindly furnished us by Professor Marcou. "I take a great deal of pleasure in the thought that, on my return to Paris, I shall present to the Academy of Sciences an account of what I believe to be a very valuable prophylactic treatment against hydrophobia, applicable after the accident both to man and dogs. Do you not know same feature of this terrible disease which may be peculiar in America? Is it of frequent occurrence there? Remember that I should have the courage to apply my treatment even on persons who, after being bitten, had made the journey from Paris to America—although under these conditions at least two weeks must have elapsed since the accident—so great is my confidence in my method. However, I shall feel more sure of myself when I have made a large number of trials on man, which I shall do in 1885-'86. I have as yet made but one trial—on an Alsatian boy, whose mother brought him to me. He had been bitten horribly on the fourth of last July, and death by hydrophobia seemed unavoidable. Up to the present time I have excellent news of his health, although it is sixty-four days since the accident."—*Science*.

Loco.—A writer on *loco* says the plant is not poisonous. When cattle eat a quantity, it absorbs the juices of the alimentary canal, or dries them up. It then collects in the stomach and intestines as a dry mass, and the pressure on the circulation causes all the symptoms observable and finally produces death. The internal condition of cattle dying of this disease will verify this view.

OXIDE OF ZINC, according to Prof. Peterson, of Kiel, is just as good as iodoform in the treatment of wounds, is not poisonous, is cheaper, and does not smell offensively.

DR. KOCH'S CHOLERA INOCULATION.—An exchange says Koch's "comma bacillus" appears to be having a hard time of it among the experts. First, Dr. Klein showed his contempt for it by swallowing it, and now Dr. Lancaster has the unkindness to say—first, it is not comma-shaped; second, it is not a bacillus; third, it does not always occur in the intestines of cholera patients, and fourth, there is no good evidence that inoculation with it produces cholera. In fact the poor thing appears to be about annihilated by its critics. Cholera, though, will remain undisturbed by it, and relentlessly claim its thousands of victims as heretofore.—*Medical Record*.

REUNION OF SEPARATED MEMBERS. — Dr. Klein, of the Austrian army, reports two cases of perfect reunion after separation of members, which clearly demonstrate that the preservation of separated members in alcohol is not the sole office of the surgeon in such accidents. Both cases referred to self-inflicted amputation of fingers (to avoid military service.) In one case union resulted in twenty-two days, in the other, where the finger was only found half an hour after the amputation, the cold and blue member grew warm on the second day, and had re-established its former relations completely within six weeks. Iodoform-gauze was used in both cases.—*Therapeutic Gazette*.

COSTLY CURS.—A correspondent of the New York *Tribune* says: There was once a people who worshipped the cat; we sacrifice to *the cur dog* 40,000,000 sheep annually. What a noble creature must be this cur dog! These 40,000,000 sheep

would supply all the wool we require, and, in addition to that from the sheep which the cur dogs kindly spare to us, would leave a good deal to sell abroad. What does the cur dog cost? Forty million sheep would produce \$50,000,000 worth of wool and \$50,000,000 worth of lambs. The cur dog, then, costs us in this way alone, \$100,000,000 yearly, besides his food and the fowls and eggs he destroys, and the invaluable lives which are lost by reason of his bite and the dreadful hydrophobia. We laugh to scorn the ancient people who sacrificed to the neither harmless nor necessary cat, but we ourselves worship the savage, unrelenting dog and sacrifice our invaluable sheep to its bloodthirstiness.

DISINFECTANTS.—All the at present known agents of disinfection can be classed in three categories according to the nature of their action, viz.: the physical, physiological and chemical disinfectants.

As purely physical disinfectants rank dry heat and hot vapors. Both are powerful agents, but labor under the disadvantage of having but a limited applicability as to the area involved.

The physiological method is based on the supposition that the majority of infecting agencies are living organisms, and intends their destruction by drugs which prove poisonous to them without, in the quantity exhibited, injuring the human organism. The chief representatives of this group are the corrosive sublimate and the products of dry distillation, as carbolic acid. The sublimate is unfit for any extensive use on account of its powerfully poisonous action even in small quantities on man and animals whilst the carbolic products are not sufficiently energetic in their action.

The third group is formed by chlorine, bromine and sulphurous acid and owes its effects to a chemical decomposition of complex compounds. Bromine, especially in its vaporous form, has proved the most efficient of the three, especially for the disinfection of rooms and houses. It can be employed as a pure vapor, or mixed with air or steam. As a simple purifier of air in crowded apartments, ships, hospitals and barracks, bromine is the most eligible agent.—*Therapeutic Gazette.*

EXCHANGES, ETC., RECEIVED.

In addition to our usual exchanges of weekly, monthly and quarterly periodicals, from abroad and at home, and a large number of agricultural and scientific papers, we have received the following :

CATALOGUES AND PAPERS.—Annual Report of the Brooklyn Health Department; Tritis and its relation to the Rheumatic, by Dr. C. J. Lindy; The Descent of Man, by C. Darwin; First Annual Report of the State Veterinary Surgeon of Iowa; The Annals of the New York Academy of Sciences; Reports du Deuxième Congres National des Vétérinaires de France.

LETTERS AND COMMUNICATIONS were received from: W. Pendry, D.V.S.; C. B. Michener, D.V.S.; J. C. Meyer, Sr., V.S.; W. Bryden, V.S.; J. Scheibler, D.V.S.; W. Dimond, D.V.S.; C. C. McLean, V.S.; J. Hopkins, D.V.S.; A. D. Galbraith, D.V.S.; W. Conklin, D.V.S.

Several communications and reports, having reached us at too late an hour, have to be postponed until our next issue.

The Journal of Comparative Medicine and Surgery.

This well-known quarterly now enters upon the seventh year of its existence. It is especially devoted to Comparative Medicine, and is of as much interest to veterinarians as to physicians. The January number will contain the following original articles :

The Comparative Anatomy of the Pyramidal Tract, by E. C. Spitzka, M.D.

History of Tuberculosis, by F. S. Billings, V.S.

An Exhaustive Treatise on Milk, by Thos. Balfe Rogers, D.V.S., Veterinary Inspector of New Jersey.

An Article on Azoturia, by Richard W. Burkc, M.R.C.V.S., Army Veterinary Department, India.

Also a Biographical Notice, with portrait, of George Fleming, M.R.C.V.S.

The April number will contain an original article on "Differential Diagnosis in Glanders" (published for the first time), by Prof. Schultz; translations of articles by Professors Growitz and Dieckerhoff on "A New Acute Disease in the Horse," and by Professor Degive on "Pleuro-Pneumonia; also an article on "Osteo Porosis," by H. F. James, V.S.

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All communications and books for review to be addressed to the Editor, 141 West 54th Street, New York. Anonymous letters and articles will not be inserted. Morbid specimens may be forwarded to the Editor, and with the consent of the owner, will be registered and placed in the collection of the American Veterinary College.

Post Office orders to be made payable to A. LIAUTARD, Editor, through Station G. New York.

As we go to press on the 20th of the month, papers for publication ought to reach us before or on that date.

AMERICAN VETERINARY REVIEW,

JANUARY, 1886.

EDITORIAL.

HYDROPHOBIA NOW—GLANDERS NEXT.

The horrors of hydrophobia have, within a few weeks, consequent upon the lamentable occurrences recently witnessed in Newark, again forced themselves upon the public attention, and the excitement following the fresh invasion has merged itself into a general and deep-seated anxiety throughout the community.

Our friend Mr. Billings has taken charge of the children bitten in Newark, on their way to Paris to be confided to the treatment of Pasteur, and our confrere Mr. Sattler has also gone to place himself under Pasteur's treatment, under similar disastrous circumstances. The daily papers are of course more or less full of the literature of hydrophobia, and suggestions and dissertations and reports of infallible remedies abound in their columns. But to what end is all this? Every one has an opinion; every one a remedy. Every veterinarian has a most marvelous case to record, from the man who, "with a motion only known to experts," breaks the back of a rabid dog on his knees, without incurring inoculation, to the man who inoculates rabies to goats! or the person who takes the temperature daily, and finds it from 108° to 109°, down to the wielder of remedy with the prophylaxy of an inoculated wound by liquor ammonia, or greater and more famous than all, that mysterious bit of geology known as the old-fashioned "mad-stone." All and more of this kind are newly served up, some fresh, some as "old as the hills."

Owing to several causes, hydrophobia has prevailed lately to an unusual extent. Among these causes may be mentioned our culpable carelessness in respect to useless and vagrant dogs—mere canine tramps—and the non-enforcement of proper sanitary legislation relating not to diseases of dogs only, but to all the diseases of animals communicable to man. That we are endangered by an outbreak of rabies at the present time, we regret to say, there is no room to doubt. But when this has passed over, may we not inquire whether there are not other diseases which we ought still more to dread, and which really threaten us more imminently than hydrophobia?

Now that the horse has been stolen, our daily papers are bidding us to close the barn door, and are putting themselves to much trouble, by plying that marvelous knowledge-pump, the “interview,” in order to find out all about it. If in plying the pump-handle they suck up a great deal of air, it will not be much wondered at. There is sometimes much gas, and sometimes a great vacuum at the end of this pump—the standing and repute of the interviewed parties as “experts” or “authorities” notwithstanding. Of course the reporters have collected material in abundance for the articles they are directed to “get up” on the current topic, but what will be their next text? Will they permit us, though a little in advance, to inform them? It will probably be—glanders.

We have had a few mad dogs in New Jersey, albeit scarcely more than in other years, though the results have been more serious than usual. But how many cases of glanders have we in all directions around us? The rabid dogs recently running loose were in New Jersey, but glanders is all over. It exists in nearly every city, county and State of the Union; and what are we going to do about it?

We have heard of building hospitals for rabid patients; but how many human hydrophobic patients can be counted within the last 10 or 20 years to justify these establishments? We are told also of veterinarians building hospitals for rabid dogs; but how many of those wretched animals have been found in the same period of 10 or 20 years, and how many have ever existed

whose treatment by the executioner would not have been infinitely more proper than the prescription of the physician and the care of the nurse?

But glanders! Glanders we have, and plenty of it. Hydrophobia, if Pasteur's method is what we believe it to be, is now curable and can be prevented. But what do we know of glanders, which exists in our stables in hundreds of cases; that kills the poor working horse as well as the millionaire's trotter; that, though it progresses slowly and insidiously, nevertheless always kills; that disguises itself with all the appearances of perfect and robust health, while still infecting and killing wherever it can inoculate, and that is communicable to mankind, and always fatal, after a long and most loathsome sickness?

Hydrophobia may be the subject of to-day, but as for us, veterinarians, we know that glanders will sooner or later take its place. Diseases of animals contagious to man must come under the cognizance of veterinary sanitary medicine. They belong to that domain, and sooner or later (may it not be too late) the duty will, upon the imperative demand of the people, impose itself upon our government. Must we wait until the reporters regale the readers of the newspapers with the harrowing details of the deaths of a few of our prominent citizens and public men, and substitute a glanders fright for the existing hydrophobia scare, before we are permitted to record some rational legislation on these subjects?

REGULATION OF VETERINARY PRACTICE—VETERINARY SOCIETIES.

The subject of the regulation of veterinary practice is once again occupying the attention of some of the State societies, and, as usual, the New York society finds itself first in the field. The need for action seems to be urgent, and the members of that body are getting ready for another, and it is to be hoped what will prove to be a more successful effort, to secure their object. At some of their recent meetings they have had the subject under consideration, by the members, and for the still more thorough

discussion of the matter, a general meeting was recently called, at which Dr. R. W. Finlay was entrusted with the pleasant task of reading a paper on the importance and the requirements of the subject. This paper is given to our readers in our present number, and will be found well deserving the vote of thanks which was tendered to the author.

While we record the meeting as reported to us by the Secretary of the association, we cannot refrain from remarking, with regret, upon the poor attendance, and the apparent lack of interest shown by the members. But that is not all. Is it only in this society that this fault may be observed? Is not the same remark applicable also to other veterinary societies? Are not all derelict in the same manner, and is not even the national body of veterinarians, the United States Veterinary Association itself, subject to a similar indictment?

Every one of us will recognize this fact, and many amongst us must acknowledge that they themselves are among the delinquents. Nor, unfortunately, is it only on the lack of attendance upon the meetings that we can recriminate.

There seems to be in many among us a condition of apathetic indifference which is highly detrimental to our advancement and subversive of our interests. If we look at our veterinary periodicals, do we find in them any satisfying evidence of ambitious labor on the part of our veterinarians? How many records of personal investigations do we meet with; how many reports of valuable and interesting cases are printed; how much and what can we show of good and solid work on the part of our quite numerous practitioners; or how many of our successful professional men become able and acceptable correspondents? In our societies the attendance is not only always small, but seldom do we listen to the reading of interesting papers or valuable statements. There is a condition of apathy, of indifference, which holds our profession back and necessarily and undoubtedly prevents the public at large from appreciating us at our proper value.

The veterinarian of to-day is no longer the "horse doctor" of twenty-five years ago. He can no longer be satisfied with the ordinary routine of his practice; the progress made by the pro-

fession of his choice imposes upon him obligations which he cannot afford to ignore. He must, of course, attend to his patients, but he must assist in the elevation of his profession in public estimation, and there is no better way for him to render that assistance than to work for it, and not solely for himself. He must attend the meetings of the societies to which he belongs; he must take part in the discussions; he must express his opinions before the public, in order that others may be benefitted by them; he must bear in mind that the publication of his observations helps to build up not only his own repute, but that of his profession, and not only at home and in his own sphere, but all over the world. These are some of the obligations which we believe all veterinarians who possess a true professional "patriotism" ought to fulfil, but which cannot be realized unless our brotherhood on this continent will consent to rouse themselves from the sluggish apathy which seems to possess their minds and narcotise their spirits. Let us hope for the time when they will honor their calling, and justify their pride in their profession by making it something to be proud of.

ACKNOWLEDGMENT.

In view of the departure of Mr. Billings for Paris, on his errand of humanity, in which he hopes, with other philanthropic friends, to accomplish results of signal advantage to those whom his excursion is designed to benefit; and besides this, to perform important services in the promotion of the objects of his own organization, the faculty and students of the American Veterinary College have felt it to be their duty to tender him a small pecuniary testimony of their sympathy and desire to co-operate in the good work on hand. Following is Mr. Billings' response to the communication, received by the Dean of the College:

NEW YORK, Dec. 8, 1885.

Dr. A. Liautard, Dean of the Faculty A.V.C.,

DEAR SIR:—I cannot well find words to express my feelings for the delicate remembrance sent by you in the name of and by a committee of the students of the American Veterinary

College. I can only accept it as a testimonial of esteem, for I have certainly done nothing to earn any such acknowledgment in the short course of lectures I have delivered this session. But if earnest wishes for the success of the A. V. C. and its alumni, past, present and future, can be any expression of my part of the obligations which all true veterinarians should feel for it, then you and your fellows of the faculty and your students and my fellow students can be assured of those wishes.

Thanking you for your kind wishes for this voyage to the Pool of Healing,

I remain your obedient servant,

FRANK S. BILLINGS.

VETERINARY EDUCATION.

It is true that it is late, but "better late than not at all," to discover that our call to the veterinarians of the United States, for the expression of their opinions on the subject of veterinary education, has not been entirely over-looked or ignored, and we publish to-day, with pleasure, a letter from Dr. Pendry on the subject. The example set by the Doctor ought to be followed. Many points of interest are connected with the subject, of which ignorance would be unpardonable. Our friends of the Ohio Society were in earnest in their move. It is not the first time they have approached the subject. Already, in the September meeting of the United States Veterinary Association, in 1884, action had been taken on a motion presented to that effect—by Dr. Howe, of Dayton, we believe—and we hope sincerely that more communications expressing the various opinions will soon come to us for publication.

VETERINARY APPOINTMENT.

Dr. Austin Peters has been appointed Veterinary Surgeon to the Massachusetts Society for Promoting Agriculture, and has been intrusted with the work of investigating epizootic abortion in cows, hog cholera and other contagious diseases of domestic animals.

ORIGINAL ARTICLES.

VETERINARY MEDICAL LEGISLATION.

A Paper read before the N. Y. State Veterinary Society by R. W. FINLAY, V.S.

Mr. Chairman and Gentleman :

I wish to invite your attention this evening to a few points worthy of our consideration regarding the proposed bill to be presented to the Legislature this coming session, in behalf of the preservation of the health and welfare of the people at large by checking disease in its incipency instead of, "as is the custom practised," waiting for epidemics or epizootics to exhibit their fatal grip on communities. That the step contemplated is much needed and a move in the right direction against evils that exist, whose magnitude is not fully appreciated by the people or their representatives at Albany, constituting Health Boards, is partly due to the fact that in many cases the position is at best a political one, receiving a very limited supply of time and money sufficient to properly investigate matters of so vast import, and partly because this very lack of the essential requisite limits the amount of concentrated knowledge obtainable. That the subject under notice has long agitated the minds of the foremost thinkers in the veterinary profession may be amply proved by an examination of our medical literature.

The educated veterinarian is a sanitarian in the literal sense of the word, protecting the people by efforts directed towards checking the diseases among the lower orders of animals that are communicable to the human family. In the discharge of this part of his professional duties, he has been in the past singled out by empiricism, whose shafts have been hurled principally through men trying to fill the position of the true veterinarian, but whose knowledge of disease was as vague, and whose attempts at the relief of suffering were as unsatisfactory as those of the ancients as compared with the present brilliant successes in surgery, medicine and chemistry. These assaults, directed through jealousy and bred in ignorance, against a profession struggling through its

infancy, required the constant attention of the profession in their own defense. Gentlemen, the profession has lived through its infancy and attained its manhood; it represents educated intelligence, and, backed by scientific knowledge and unity of action, it has given the death blow to empiricism, and now turns its attention to the destruction of the *monster virus*, or disease in its incipency.

This subject has been uppermost in the minds of the members of the New York State Veterinary Society for some time past, where it has been thoroughly ventilated, and the result is this special meeting, called for the open discussion of the matter, laying bare the facts as they exist before the public, asking them to lend a helping hand in invoking the aid of the Legislature against evils that exist, sapping the vitality and threatening the lives of our loved ones.

In this capacity I have been requested to come before you this evening, and I shall endeavor in a concise manner, avoiding technicalities as far as possible, to merit your consideration and ask *your hearty co-operation in a just cause.*

To the non-professional eye the questions naturally arise as regards the proposed bill :

1. *What are its objects and aims ?*
2. *What are the evils claimed to be in existence ?*
3. *Do they exist de facto, or only in the imagination ?*
4. *Are they of much moment ?*
5. *What is the remedy proposed, and does it conflict with existing laws affecting the financial interests of the State or county governments, or the liberty of the people ?*

What are its objects and aims ?

Gentlemen, the proposed bill has for its object a check upon the spread of contagious diseases, many of them arising in the lower order of animals, and communicable to man, and being in many cases common to both.

Of these we find examples in glanders, farcy, typhoid, diphtheria, hydrophobia, scarlet fever, measles, tuberculosis, anthrax, malignant pustule, eczema, ringworm and many other parasitical diseases of the skin.

It aims to promote this object by the detection of disease in its *incipiency*.

And it is a fact well understood by the simplest novice that to accomplish this object requires the keen discrimination possessed only by the "expert"—the qualified practitioner of veterinary science.

What are the evils said to be in existence?

They are diseases of a loathsome nature and of septic origin, many of them arising in the lower orders of animals, many of them carried by them to the household, and when once established there creating immeasurable suffering, frequently followed by death, the mortality, especially in our crowded tenement districts, at times assuming alarming proportions. Statistics exhibit these facts beyond question.

Do they exist *de facto*, or in the imagination only?

In the scarlet fever epidemic in Keeswick, England, in July, 1881, when some forty-odd cases appeared, the medical officer traced their cause to a dairy that supplied the affected families with milk.

There are tabulated by Earnest Hart, fifty typhoid epidemics, fourteen of scarlet fever and seven of diphtheria, having their origin in the dairy.

Friedberger reports to the Veterinary Society of Munich unmistakable symptoms of croup and diphtheria witnessed in the domestic fowls.

In the *Medical Record*, of this city, November 8, 1879, will be found a notice of a household where, five children being sick with diphtheria, three kittens took the disease and died. Post mortem examination showed diphtheritic exudations in the throat.

Illinois furnishes evidence of glanders extending to the human family. During the recent outbreak the health boards chronicled some fourteen cases of a malignant and loathsome nature, tending fatally.

Several outbreaks of typhoid fever have been traced to the dairy, the recent epidemics in England, for example, furnishing positive evidence of the contagium through the milk supply from a dairy where the cans were washed in the water of a running

stream, above which point the excreta of typhoid patients had been deposited in vaults near the banks of the stream, thus polluting the water and carrying the poisonous influence to families served with milk supplied by this dairy.

Scarletina and diphtheria are carried into the household by the animal pets, the cat and dog, medical literature furnishing positive proof on this point to the mind of the most skeptical.

Bouley, Chauveau, Davaine and others have traced the origin of malignant pustule in man to the carbuncular diseases of animals.

European veterinarians have enriched medical literature with the results of their investigations in trichinosis, hydatid diseases, measles in swine, glanders, farcy and hydrophobia.

We have the whole realm of parasitic diseases to investigate. The London *Lancet* reports cases of eczema and ringworm in children taken from the dog and cat.

There have been tabulated twenty-two parasitical diseases of the skin common to both the human family and the domestic animals.

We still have *hog cholera*, pleuro-pneumonia and tuberculosis demanding the closest study and comparison. Recent discoveries in scientific medicine show the growing importance of the study of comparative medicine.

It is only by the closest scrutiny in these channels that preventative medicine can be surely and rapidly advanced, so impressed are the minds of professional men becoming with the liability to various diseases through the medium of the flesh eaten and milk consumed, and the utter helplessness of the consumer to defend himself against the various maladies that may arise therefrom.

Organized effort should be made to demand from our general government the protection afforded by European countries in the way of inspection, by competent veterinarians, of the flesh and milk supply. Until this is accomplished, we are virtually without the protection that science affords in keeping up with advanced ideas of the nineteenth century.

Are they of much moment?

The experience of all observers, coupled with statistics, give ample proof of the destructive influences at work in the epidemics and epizootics of which we have been the unwilling recipients. This, to the human family, implies a sacrifice of life, health and happiness, engendered by disease, and creating immeasurable suffering in the household.

The report rendered by Dr. Glazier of trichinosis epidemics in Europe, between 1860 and 1880, comprises 160 epidemics, with 3,044 cases and 231 deaths; while a similar record as to the United States gives 26 localized epidemics, with 77 cases and 26 deaths.

When it is considered that only one-quarter of the people who eat the flesh take the disease, and that it has been estimated that 45,000 trichinæ exist to the ounce of muscular tissue in an affected part of the hog, we cannot exercise too much caution in the direction of prevention lest our cases become more numerous.

The census of live stock in 1882 shows that on the farms of the United States there were at that time 10,357,981 horses, 1,812,932 mules and asses, 993,970 oxen, 12,443,593 milch cows, 22,488,500 other cattle, 35,191,656 sheep and 47,683,951 swine.

The increase in percentage over the preceding census was, swine, 90 per cent.; mules and asses, 61 per cent.; cattle, 66 per cent.; cows, 39 per cent.; horses, 45 per cent.; sheep, 24 per cent.; while oxen showed a decrease of 25 per cent.

This census is particularly interesting to the veterinarian, as it indicates the field he has to work in, and the tendency towards increase on the part of stock-raisers.

It has been estimated that in this city there are 50 000 horses, at an average value of \$200 each, though an exact census has never been taken, and the valuation includes only the work horses. Trotters could not be included in so low a valuation. The private stables of Mr. Robert Bonner, Wm. H. Vanderbilt, Frank Work and many other public-spirited horse owners would rapidly swell these figures. Take, for example, the queen, "Maud S.," of the nominal value of \$40,000 and an intrinsic value of \$100,000, and where would that \$200 be?

To show *that epizootics entails financial losses*, I need only draw your attention to a couple of examples recorded.

Nearly all the cattle that arrived at Glasgow May 31st, 1881, by the Allan steamer *Phenecian*, from Boston, were found to be affected with foot and mouth disease, "anthrax," and were destroyed, and their carcasses boiled down.

The many outbreaks of contagious diseases among milch cows during the last ten years have cost the tax-payers of this State to the tune of over one hundred thousand dollars for pleuropneumonia alone.

A special report, No. 12, of the United States Department of Agriculture for 1879, refers to a tabular statement of losses of animals from infectious diseases for 1877, amounting to \$16,653,428, and as the years have rolled by statistics exhibit increased numbers, that cannot be contemplated without a growing feeling of alarm for the welfare of our herds. The financial interests of our stock raisers and flesh consumers is a matter worthy of consideration by our general government, from a politico-economic point of view, which fact ought to be strenuously impressed on our present Congress.

What is the remedy proposed?

That stringent measures be adopted to counteract existing evils by the practical study of contagion and contagious diseases, which implies the investigation of the nature of the contagium, the mode by which it produces the phenomena of disease, and the method by which it is reproduced and conveyed from one animal to another.

Each disease and each contagium must be investigated on its own merits, and studied apart from others.

Contagious diseases, apart from those known to be due to animal or vegetable parasites, may be divided into those which are specifically contagious and those which, though contagious, are variable in their action.

The consideration of the former will sufficiently serve the purpose of this paper, leaving the latter for some other time.

The specifically contagious always arise by the transmission of the virus from a previous case. They have a similar course to run, present similar symptoms and morbid process and reproduce similar cases.

The virus is specially limited to certain tissues, generally those which form the specific lesion, examples of which we find in the vesicle, etc., of small-pox, the chancre of glanders, the pustule of farcy, the eruption and desquamation of scarlet fever and the exudation in diphtheria.

In order to accomplish the task we have indicated it would be necessary to create special departments in the State government. But as that is a legal question I leave it to the judiciary committee, who would naturally see that it does not conflict with departments in existence.

That it does not and could not interfere with the liberties of the citizen, is apparent on its face, the measure being, in fact, one of protection. That it would interfere with the sale of diseased meats and impure milk, I verily believe, and in a very forcible manner, but while it destroyed the gains of a few unscrupulous dealers in the above articles, it would benefit the consumers, whose name is legion.

We hold, as men of liberal education and scientific attainments, that it is our duty to the public to educate them up to a knowledge of evils that threaten their welfare, and solicit their aid in invoking the Legislature for a suitable defence.

The qualified veterinarian has not only long stood guard over diseases that decimate our herds, entailing financial losses to the owners, for which service he is inadequately reimbursed, but his efforts are also directed towards checking their spread among the human family, and in this capacity he "poses" as a sanitarian of a benovelent order, for this service meets with no reward except the consciousness in his own bosom of preventing a portion of the suffering to which human flesh is heir.

And in this latter field of usefulness his efforts are handicapped to a marked extent, detrimentally to the checking of disease in its incipency, by the fact that no laws exist regulating the practice of veterinary medicine in this, the Empire State, which, as its name implies, should take the initiative, while on the contrary it does not even follow some of its sister States in legislation on so important a subject.

Every veterinarian of any standing in the profession feels the

necessity of united action on the part of his professional brethren, looking towards one common object in view, namely, the check of contagious diseases.

Singlehanded little can be done where so much is required. But in order to obtain the best efforts of the profession a law regulating practice would be absolutely necessary, as by this means empiricism would soon become a thing of the past and the lives of our fellow beings be protected, while epizootics would lose their force, if not their frequency.

Viewing the bill under discussion from these common sense standpoints, it behooves us as members of the veterinary profession and comparative physicians, to put forth our best efforts during the present session of the Legislature, backed by all the indorsement possible of good citizens, whether horsemen, merchants or private individuals.

Then the old adage, "right makes might," would never be more fully illustrated. It will then secure less for avarice, but more for the protection desired, and have, if accomplished, (which I have reason to believe it will be, if properly laid before the Legislature) the unity of all interested in suitable legislation for protection.

DISEASES OF THE HEART IN DOMESTIC ANIMALS, ESPECIALLY THE HORSE.

BY FR. BLAZEKOVIC.

(Translated by J. C. Meyer, Sr., V.S.)

Continued from page 347.

Aneurism of the Heart,

which is a partial circumscribed enlargement of the cavities of the heart, is, at the same time, established in the diseased texture of the endocardium and the muscle of the heart. It is termed aneurism of the heart, because by partial enlargement a condition similar to that of aneurism of vessels is formed. Aneurism of the heart occurs almost exclusively in the left heart, which is hypertrophically extended, and consequently is the result of an already existing alteration. Generally aneurism of the heart is

found after endocarditis and carditis. An aneurism, provided with ligamentous, cellulo fibrous and callous changes, is an expansion, formed in the wall of the heart, or a round sac which communicates with the cavity of the heart by means of a separate canal, or by means of a space corresponding to its cavity. Aneurism, varying in size from a pea bean to a nut, egg and larger, is found arising from a broad basis or lying flat on a pedicle. The form and expansion depend mostly upon the metamorphosis in the muscle of the heart and its pressure, compactness and relaxation in the structure; next upon the original grade and constitution, tension and power of resistance of the aneurismatic spot. This aneurism is to be regarded as a partial expansion, or as a rupture of substance within the altered walls of the heart, whilst the opposite surface of the wall still possesses sufficient power of resistance to promote the extension of an aneurism. As in arteri-urisma generally, the cavity of the heart aneurisms is filled with compact layers of fibrinous coagulation. The more completely broken down the structure of the muscle, the more numerous are these layers. Often ragged, wart-like growths are present upon the inner surface of the aneurisms of the heart.

Rupture of the Heart—Rupture Cardis.

Rupture of the heart is a severing of the attachment of the wall of the heart, causing an effusion of blood in the pericardium. The laceration must be complete through the whole thickness of the muscular substance. Such a laceration is spontaneous. We find lacerations caused by foreign bodies from without; in ruminants they frequently occur from the reticulum. In older literature, comparatively few such cases of rupture of the heart are recorded, whilst at the present time they are mentioned quite often.

The condition at a post-mortem examination is not always the same. Extention and direction of the rupture, form and number are varied; sometimes close together, sometimes far apart, it can cover one or both chambers.

After the laceration has taken place the inpouring blood accumulates in the pericardium, which then resembles a dark bluish bladder. Partial rupture within the muscular substance and only through a few layers also occurs, whereby then the blood extrav-

asates in the space of the rupture, resulting in apoplexy of the heart. This much can be asserted: that spontaneous rupture of the heart, if the heart be perfectly sound, scarcely ever happens. In rupture of the heart an anomaly of the muscular substance of the heart, or a predisposing consecutive disease is always present. Lacerations of the normal heart are due to traumatic causes or to intense organic effects.

Hardening and softening of the heart have been sufficiently discussed in hypertrophy; only this needs to be mentioned here, that in all cases where softening or induration of the muscle of the heart is present, rupture of the heart is also to be feared.

Foreign Bodies in the Heart.

It occurs oftener in private than in clinical practice; particularly is this the case in rural districts where draught animals are used for all possible services, that after accidental swallowing of hard, pointed and sharp objects, such as nails, needles, pieces of glass, metal, etc., which from the stomachs are apt to injure the pericardium and muscular substance of the heart. These foreign bodies can gradually pass from the stomach into the muscular substance of the heart, or if of considerable length, they continually irritate and injure the pericardium and heart. The post-mortem examination discloses, besides the enclosed foreign body, a more or less extended laceration, always proceeding from without toward the interior. If the laceration be partial and affecting a few layers of the muscle only, then the rent is found more on the outer surface of the heart. Smaller objects, such as needles and the like, can remain enclosed in the heart's substance without injury.

New Formation and Degeneration.

New formations on the heart are in general rare, nevertheless they occur and give rise, during life, especially in horses, to phenomena which could be taken for pulmonary emphysema.

Degeneration of the heart is observed more frequently since it appears as the result of the inflammation and its issue. Most prominent is the fatty degeneration with new formation of fatty tissue. This appears in two forms, the excessive production of

fatty tissue, and the fatty degeneration of the muscle of the heart (steatosis cordis).

The excessive production of fatty tissue consists in the accumulation of an unusual amount of fat on the surface of the heart. In form of fatty lobes it envelopes the whole bulk of muscle and causes the heart to appear enlarged. Beneath the separated fat, which is less consistent than the normal fat, oily and of a dirty yellow color, the muscle of the heart is found partly normal, partly atrophied, pale and fallow, also fatty degenerated. Such conditions are frequently found in obese dogs.

The second form represents the fatty degeneration of the muscle of the heart (steatosis cordis) which is frequently met with in horses, swine and sheep. The excessive growth of fat gradually lodges between the muscular fibres and is generally quite obvious between the primitive bundles. Occasionally, however, the degeneration is more or less extended, or is found in small, acute circumscribed spots which appear pale yellow, unctuous and fragile. (Röll). Beneath the fatty tissue the normal muscular substance gradually becomes less, and often decreases to one-third its normal thickness; at the same time the muscle of the heart is tawny and yellow, highly discolored, relaxed and easily torn.

Another form is the degeneration and new formation of the cellular tissue, as thickening of the interior lining of the heart; also on the valves warty protuberances and vegetations; sinewy callosities on different parts of the heart. Development of calcareous concretions is often connected with these new formations of cellular tissues by which the chamber walls are then partially broken through. Some observers also mention fibrine on the walls of the heart on the valves. Cysts in the muscle of the heart are very rare; at least, in literature they are very seldom recorded.

Fibrinous coagulations, on the contrary, are not so rare as is generally supposed. They are found in the cavity of the heart and on the valves, attached to parts which have become softened by inflammation; also as prominent round masses in the cavity of the heart. These consist of yellow solid, dry, very fragile fibrine. In its dipper position it encloses sometimes altered red

blood corpuscles; sometimes a quantity of cream-like purulent and liquid mush. These coagulations increase by deposits in layers of the blood flowing by, and are easily detached from the lining of the heart. As soon as such a separation ensues and enters the blood current it causes the formation of metastatic deposits in the capillaries.

Cancroid tumors of sarcomatous new formations are very seldom found on the heart. Occasionally in the dog they are found on the heart and muscles of the heart in progressive cachexia.

(D) *Changes in Consequence of Pre-existing Inflammation—Pericarditis.*—Inflammation of the pericardium is either spread over the whole pericardium, or attacks only some parts of it. At the first appearance of inflammation of the pericardium unmistakable traces of vascular injection are apparent in forms of red dots, streaks and scattered spots. Capillary plexus are visible upon the surface of the pericardium whose gloss and transparency disappear in the same proportion as the injection and hyperemic progresses, finally loses its gloss and transparency entirely and receives the appearance of dull, dim glass. The pericardium is now and then covered with ecchymosis of extravasated blood.

In horses and cattle, seldom in dogs, exudation with cellular new formations occurs shortly after hyperemic. Where the densest and most intense injection was, tender white flakes appear, peripheric coagulations separate and are easily stripped from the surface of the injection. Still sometimes the intensity of the redness is not in proportion with the exudation; and sometimes profuse exudation is found where redness and injection is hardly perceptible. In such case the exudation, rich in fibrine, came to the surface of both lobes of the heart as a deposit, forming a fine gauze-like covering which represents a turbid, soft yellow-reddish mass. These exudations, developing after hyperemic, do not always remain in their primary form, but are subjected to modifications, in consequence of which diversity in the character of the exudation is often found. Although, at the outset we must adopt a priori diversity in the exudation, be it through modifications, be it through primary processes, nevertheless, these will be met with in the following principle forms:

(To be continued.)

MICROBES AND CONTAGIOUS DISEASES.

BY M. TROUSSERT.*

(Continued from page 358.)

Theory of the ptomaines.—The discovery of specific alkaloids in the pus, by Pamom (sepsine) and in cadavers and substances undergoing putrefaction, by Selim and Gautier, (ptomaines) furnished the partisans of the theory of the unorganized viruses with their last chance by encouraging the suggestion that these ptomaines, or toxic alkaloids, are the product of merely chemical morbid alterations in the cadaver, forming themselves in the tissues and liquids of the economy irrespective of all microbial influences. This idea, in reality, does not, *a priori*, differ from Mr. Robin's theory of blastema, and if this be admitted, it follows that all the pathogenic microbes become assimilated to the *bacillus of Jequirity* of Sakler, which lives and grows, it is true, in the toxic juice of the seeds of the *Abrus precatorius*, but has no connection, as proved by Klein, with the artificial conjunctivitis which it produces.

But this theory of the *ptomaines without microbes* cannot be sustained in the presence of an impartial study of the facts. We are able, it is true, by a proper filtration, to separate the ptomaine from its microbe; but the converse, (as in the case of the Jequirity) is an impossibility. This microbe, separated from the primitive liquid and placed in bouillons of successive cultures, in order to obtain it pure from any foreign element, not only continues to produce its characteristic ptomaine, but produces it entirely at the expense of the liquid of culture, as demonstrated by the recent experiments of Gabriel Ponchet with the ptomaine of cholera. There is no more a ptomaine without a special microbe than there is ergotine without *claviceps purpurea*, or vinegar without *mycoderma aceti*.

The microbial theory of Mr. Pasteur is the only one which

* From the *Revue Scientifique*, Feb. 26, 1885.

explains all the facts of the case, and is the only one which is not driven to uncertain forms of expression and terms of indefinite meaning, when seeking to explain the contagious qualities of diseases, as the old medicine did, and as Mr. Jousset de Belleme does, when he speaks of conditions entirely obscure, in referring to the production of contagious affections. Terms of this character, such as *miasma*, *virus*, *effluvia*, etc., employed in past years to designate this unknown essence or entity which constitutes contagium, could only receive a proper definition by admitting a "*catalytic action*," which had no other use than to postpone the solution of the problem, and to displace one unproved hypothesis by another.*

If the parasitic theory has been followed by no other favorable effect than the improvement of our medical terminology, by displacing these "*miasmas*," "*effluviæ*," etc., and especially these "*catalytic*" phenomena, an important and gratifying step forward would already have been secured. From the day when it was proved that the *miasmas* and the *effluviæ*, as well as the viruses themselves, are nothing more than the germs of the air, viz., the microbe and their spores; from that day the entire domain of pathology has been illuminated by a brilliant fact, whose value may already be partially comprehended by the progress it has accomplished in a period of not more than ten brief years.

This theory has given us Guérin's method of closing wounds; the antiseptic dressing of Lister; the new vaccine of Pasteur—and this trio of great discoveries alone, supposing them to be all, are more than sufficient to immortalize the germ hypothesis. And where is the progress that has been accomplished in medical science by the theories which antagonize the microbian? We know of none—and is not that a sufficient judgment of their merits?

Again; the microbian theory has passed quite beyond its primitive stage, and can no longer be classed in the list of hypothesis. It has fully entered the domain of established facts, and now, before a disease can be considered to be due to a specific microbe,

* See, for instance, the article *Miasma* in the Dictionary of Nysten, Lithe & Robins (Edition 1864.)

it must be submitted to the test of the four following rules, so positively established by Koch :

1. The microbe must have been found in the blood, in the tissues of the diseased individual, or of one dead by the disease.

2. Obtained from these media, (blood or tissues, as the case may be) and cultivated artificially, outside of the animal, the microbe ought to be carried from culture to culture for several successive generations, taking all necessary precautions to prevent the introduction of any other microbe in the same cultures and conducting the process in such a manner as to obtain the specific microbe wholly free from contamination or mixture with any other substance contained in the body which has furnished the original.

3. Thus purified by successive cultures, the microbe, when introduced into the body of a sound animal, which yet is subject to the disease, is capable of reproducing in this animal the original disease with all its symptoms and characteristic lesions.

4. It is also necessary to determine that the microbes developed in the animal thus inoculated must be in excess, as to number, of those which were introduced by the original inoculation. These four conditions are necessary, and they are sufficient, and when the necessary experiments have been conducted with a due respect to their details, and with uniform exactness, the result has been identical, and has consistently and clearly established the fact that a true classification of diseases has fixed the place of anthrax, chicken and hog cholera, glanders, variola, tuberculosis, erysipela and even Asiatic cholera, as certainly microbic diseases in the true acceptation of the word.

The opposition encountered by the microbic theory among pathologists has nothing new in it, and should not excite any one's surprise. The profession have tenaciously clung to their old habits and traditions, and have not surrendered them without much struggling. The parasitic theory is, no doubt, too simple and too natural to be accepted without contention.

But the conquests already made are full of good promise for the future. Is it necessary to enumerate them again? In the beginning of this century—for example—the parasitic theory of

manage met with the same opposition: where is the physician who doubts, to-day, that *Sarcoptes Scabiei* is the only cause of it? A little later, towards the middle of the century, when the peculiar microphytes of certain diseases of the skin were discovered, no one was willing to believe in them; yet there are, to-day, but few men who will not admit that they are the only cause of these diseases.

And again, when one sees, in anthrax, the circulatory current and all the organs filled with the bacteridies (*Bacillus Anthracis*) is it right to deny that this disease is essentially parasitic? These bacteridies are living beings, which grow, reproduce themselves, and increase with great activity. Can it then be questioned that their presence is an immediate danger, especially now that it is known that at the very expense of the material of the organism itself they form a violent poison (ptomaine) which penetrates where the bacteridie does not? Will it be said that here again bacteridies are only "epiphenomena," that is, a "complication" without importance, and undeserving attention?

What has been said of anthrax may be said as well with reference to all other diseases: diphtheria, variola, intermittent fever. And we are not afraid to say it, for even if our instruments were not sufficiently powerful to bring to our sight organisms as minute as the causes and breeders of disease, we should be compelled by the deductions of reason alone to admit their existence, knowing what we do of the nature and spread of contagious diseases. He who talks of contagium talks of microbe, and it is the simplicity of this theory, after all, that gives it its great value and authorizes and compels us to consider it as the true expression of reality.

What matters it whether the discussion is on the question whether the microbe is the contagium itself, or is only the carrier of it? Whether it acts by itself, or only by the ptomaines it produces; whether there is a specific microbe for each species of disease, or whether this microbe is susceptible of transformation, like any other living being, according to the nature of the medium in which it lives? All these questions are secondary, and may wait to be solved at a later period, but at the present time have nothing to do with the essentials of the parasitic theory.

This is now a new subject, though every day adds a stone to the rising edifice. But it is too soon to demand a view of a completed structure. Progress in science may modify present views, as to details, but the foundation will remain, because truth is impregnable, and the theory contended for rests immovably upon the simple and rational interpretation of visible and tangible fact.

PYREXIA.

BY H. F. JAMES, V.S.

The natural heat of the body may be looked upon as the result of oxidation of the tissues, the skin and other emunctories preserving the balance and maintaining, in the horse, a uniform temperature of from 90° to 101° Fahrenheit. But it is of abnormal heat that I wish to speak. Certain diseases are attended by an increase of pulse and temperature, which constitutes the febrile state. To what is the disturbance in calorification due? Is it to the influence of microbes on the economy? to some derangement of the functions of the emunctories? to loss of the respiratory power of the blood? to profound nutritive changes of the nervous system? We know not. All that we do know is that it is the cause or effect of disease, more probably the latter. Some think that fever is an effort of nature to overcome the effects of disease, while others regard the increase of temperature as the chief source of danger. The maxim of the latter class is "the heat kills." I believe with Dr. Huchard that we should have no antithermic medicaments, that we should use antihyperthermics. What are we to regard as a dangerous temperature in the horse? The ephemeral high fever which attends some cases of laryngeal trouble, and outbreaks of the so-called pink-eye scarcely require active measures, but in cases of influenza, pneumonia, etc., where the temperature ranges from 106° to 107° for two or three days, the chances of recovery are very slight. The veterinary profession do not look with favor upon the German theory, that all the symptoms of a disease are caused by the pyrexia, and that to reduce this to a normal standard is virtually to effect a cure. I am

convinced from practical observation that the decrease of temperature does not by any means make such a sudden disappearance of the threatening symptoms as our Berlin confreres would have us believe. We cannot separate the increased heat from the increased pulse and increased respiration; each one by itself is but a pure index of the patient's condition; taken together we are able to draw valuable deductions. In continued excessive elevation of the temperature, say over 106° in the horse, I think we are justified in using antipyretic measures; and what reliable ones do we possess? Quinine is used by many, but I must confess to being disappointed in it. A year or two ago Dr. Faville, the present State Veterinarian of Colorado, made some observations on this subject in the REVIEW. He gave 40 to 60 grain doses every few hours in a case where the temperature was $108.2-5^{\circ}$ (a case of bi-lateral pneumonia) and the reduction of heat was steady and well-marked. The same gentleman informed me personally that he had given 1 oz. of quinine to cattle suffering from Texas fever, and reduced from 109° to 102° . I have not only used quinine in 50 grain doses for this purpose, but in some cases have given 1 oz. within eight or nine hours, without any reduction of temperature and only slight symptoms of cinchonism. Ice-water injections and showering have always been my stronghold in sunstroke, and nearly two years ago the idea of lowering the heat in pneumonia and influenza cases by cold water rectal injections struck me as being very promising. Have since tried it extensively with very satisfactory results, in some cases bringing down temperature from 107° to 102° in twelve hours. If very sick and temperature above 106° , give four or five quarts of water at 80° or 90° every hour. Do not make injections too cold, especially at first, and follow the orthodox internal treatment. As temperature decreases, inject less frequently. If there is only one man in charge of the case, of course he will have to use the old-fashioned syringe without any hose. Cold affusions are not regarded with favor by veterinarians except, perhaps, in the solitary instance of sunstroke; sponging our fever patients with vinegar and water and ice water is not often practiced, though I know a few surgeons, among them Dr. Adam Harthill, of Louisville,

Ky., who resort to it. I do not mean to altogether decry the antipyretic effect of quinine, for I have had that effect from it in a minority of cases, but I think that too much reliance should not be placed upon the popularly-believed action of the drug. There is such a state as ephemeral high temperature, and this is doubtless responsible for some delusive data. I only recommend this active measure when there is a continuance of the high temperature, and where the controlling power of nature does not seem to be sufficient for its abatement. In conclusion, I would recommend a trial of antipyrine, especially in purpura, where it acts very well, as I will record at some future time. It is as good a hæmostatic as the tincture of iron or turpentine, and is a valuable addition to the therapeutics of this disease.

INFLUENZA AND THE INFECTIOUS DISEASES OF THE HORSE.

BY PROF. DIECKERHOFF.

(Continued from page 304.)

Before giving more details respecting the nature of *scalma*, we shall describe a few cases observed at the clinic of the Berlin Veterinary School.

A livery keeper had twenty-nine horses, kept in two stables, comfortably aired and provided. In June, 1883, *scalma* broke out in one of the stables, upon seventeen horses, most of which had had *pferdestaupe* in 1882 and two of them *brustsenche* in 1883.

1. On the 16th of June the owner brought to the clinic a mare which for five days previous had refused her food. The symptoms present were: general dullness; great weakness of the extremities; conjunctivæ of a dark red; eye dull and partly closed; pituitary surface red; mouth dry and pale; auscultation and percussion presenting nothing abnormal; with now and then a short, repeated cough. No medication was recommended. Hygienic regimen was advised, which was followed in four days by recovery. From the 16th to the 20th the respiration had varied

between 16 and 20, the pulse from 48 to 50, and the temperature from 39° F. to 38° F. Convalescence was slow, the animal regaining her normal strength only after several weeks.

2. An eleven-year-old horse, which had pferdestaupe in 1883, and brustseuche, under the form of pneumonia of the right lung, in the same year, was brought to the clinic on the 22d of June for anorexia. The general symptoms were not serious, and the exploration of the chest revealed nothing abnormal. The conjunctiva was pale and anemic; the pituitary membrane moist and cool; the cough short and repititious; discharge from the nostrils clear and slight; the urine was yellow in character and without albumen and rich in chlorides and sulphates. He received choice food, and three days after returned to his owner. During this period the respiration had varied from 28° down to 14°, the pulse from 36 to 48, the temperature from 37.5° to 38.9°. As in the first case, there was a slow convalescence.

It would avail nothing to report other cases of scalma, the symptoms in none of them varying materially either in form or intensity.

The acceleration of the respiration and of the circulation, the tired condition and the difficulty of locomotion are always noticed, as well as the irritation of the anterior portion of the respiratory apparatus. The disease is generally mild, and convalescence tedious. But it is sometimes complicated with pneumonia or pleurisy, and in the latter case is very apt to end fatally.

The progress and mode of eruption of scalma justify us in considering it an acute, infectious disease, due to an unknown germ or miasma, which originates and operates in stables where the conditions necessary to its growth exist. It has often been observed that scalma, unlike other contagious diseases, is not communicable by simple contact from one animal of an infected to another of another stable. The period of incubation varies from two to ten days, and like all similar infectious diseases, it acts more or less severely, and in a varying length of time, according to the temperature, to the receptivity of animals, the degree of intensity of the virus, and the hygienic measures employed against its extension.

The infectious germ seems to enter the nasal cavities first and then the bronchia, where its pathogenic action is felt. This explains the peculiar and characteristic cough and the nasal discharge occurring in severe cases.

In bovine typhus the mass of the blood becomes considerably diminished; the mucous membranes become pale; and the anemic animals need long rest and choice food. In typhoid fever, on the contrary, except in very severe cases, the animals recover rapidly.

Though scalma begins in the first respiratory passages, and in the bronchia, it may be complicated with exudative pleurisy, without leaving any marks of pneumonia to be detected at the post mortem. Fever does not follow a typical progress, as in pferdestaupe and brustseuche; its intensity is in proportion to the extent of the local disorders of the affected organs. For example, the temperature is much higher in cases of scalma complicated with pleurisy to double hydrothorax, than in simple inflammation of the first air passages.

Lastly, it is to be observed that patients seriously ill consume relatively larger rations, without correspondingly gaining flesh and strength, than those which are more mildly affected, for the reason that the aliments consumed do not excite to the same degree the intestinal mucous membrane as they do in other infectious and toxic affections.

Differential diagnosis.—Scalma cannot be mistaken for pferdestaupe, because it often appears upon one or all the horses of a stable which had, at a shortly previous period, been affected with the latter disease. In other words, it is seldom that the same subject is affected twice with pferdestaupe, and never has the reappearance of this disease been observed upon all the horses of the same stable.

Again, scalma is not, like pferdestaupe, communicable by simple contact of a healthy animal from one stable with a diseased one from another.

Lastly, the autopsy of scalmatrical horses does not reveal subcutaneous, serous or sub-mucous infiltrations; the contrary being the fact in respect to the other disease.

Brustsenche also differs essentially from scalma. The general symptoms of this last affection, the absence of the yellowish hue of the mucous membranes, and of the bloody discharge from the nose, and of the various other characteristics of pneumonia, are sufficient to establish a differential diagnosis. Besides, unless Brustsenche is complicated with serious pneumonia, or with pleurisy, the recovery is much more rapid than in scalma.

In a word, to recognize any of the infectious diseases of the horse, it must be borne in mind that it is better to depend more upon its mode of origin than upon the symptoms which characterize it. To the practitioner who admits this principle, the word "influenza" will always remain a pathological chaos.

Treatment.—The causes of scalma being yet but imperfectly understood, it is by no means an easy matter to devise the treatment most likely to check its progress in its early stages, and we must be content with the application of such hygienic treatment as appears to be adapted to the condition of the patient, and likely to prevent threatening complications. Choice and appetizing food, tonics and stimulants; dry or moist stimulating frictions; warm covering, and, in case of pleurisy or hydrothorax, revulsives on the chest; or paracentesis—all or any of these expedients are in order, according to the peculiar features of the case in hand. As prophylactic measures, we must resort to isolation of the sick ones, and the disinfection of the stables by white-washing the walls, with the scrubbing of the floor, the halls and all the accessories that may have been in contact with the contaminated animals.

EXTRACTS FROM FOREIGN JOURNALS.

CLEANING OUT THE UTERUS AFTER PARTURITION BY THE USE OF VERATRINE.

BY M. CAGNY.

Profiting by his observations of the effect of certain alkaloids in increasing the contractile tendency of the white muscles, it occurred to Mr. Cagny to utilize these effects by employing the same agents for the purpose of exciting the contractions of the

uterus, when it becomes necessary to stimulate its expulsive efforts in the delivery of the placenta, after parturition.

Employing for the purpose the syringe of Pravaz, he accordingly caused the injection upon the surface of the vagina and of the neck of the uterus, or in that organ, a preparation of two grammes of an alcoholic solution of veratrine to 1-25, and as the result, was enabled to witness an accession of repulsive efforts, which continued for more than two hours. The consequence was the elongation outwards of a part of the placenta, and five hours later, the adhesions of the cotyledons having given away, a slight traction on the part was sufficient to remove the entire mass.

The process of cleaning the parts, always repulsive and often dangerous, is now avoided in Germany, and instead of it, the uterus is filled with blood-warm water containing an alcoholic solution of corrosive sublimate, the process being usually successful. Failure in favorable results rarely occurs.—*Annales de Bruxelles*.

APPLICATION IN THE PROPHYLAXY OF ANTHRAX, OF THE
METHOD OF ATTENUATION OF THE VIRUS BY
COMPRESSED OXYGEN.

BY MR. A. CHAUVEAU.

A long-continued series of experiments has led the author to the following conclusions :

First.—A single inoculation confers perfect immunity.

Second.—Notwithstanding this activity in the virus employed, it is as inoffensive as that prepared by the other methods.

Third.—The cultures maintain their qualities for several months, without requiring any special precautions for their preservation.

Consequently, a single inoculation is sufficient to insure the immunity of animals, and to protect them efficaciously against either experimental inoculation with strong virus or the effects of spontaneous contagion.

Again, cultures attenuated by the action of compressed oxygen are as inoffensive as very attenuated cultures obtained by the

other methods, constituting what is called the first vaccine of anthrax.

And, lastly, the most attenuated cultures are still active, and may be used long after their preparation.

All these facts combine to render the process of preparation referred to superior to all others.—*Journal Acad. Sciences.*

WARM WATER INJECTIONS FOR THE REMOVAL OF THE PLACENTA.

BY MR. LAURENT.

These injections, at a temperature of forty to fifty degrees, conveyed beyond the neck of the uterus with an india-rubber tube, are strongly recommended by the author. By using this tube, the lavatory is carried quite to the bottom of the uterus, a result which it is impossible to obtain with any ordinary syringe. The tube is attached to a funnel containing about five quarts of liquid, which is injected three times a day. The placenta is usually expelled in two days.

If the expulsion has been delayed beyond the fourth or fifth day, and the secundines are in a state of decomposition, there is danger in the introduction of the hand and arm into the putrefied mass, even when it has been previously oiled; and it is then that the use of the india-rubber tube becomes most advantageous. A disinfecting liquid of permanganate of potash is then used. The operation consists in injecting, as far in as possible, about five quarts of warm water containing from one-half to one gramm of the manganate, when the mass being thus as it were disinfected, can be readily removed by the hand introduced into the uterus.

In conclusion, in order to accomplish a complete injection into the uterus, the tube is not convenient merely, but necessary and indispensable. It is the *only* instrument which can be carried so far into the organ *without danger*, and it facilitates the washing of all the cotyledons with either pure water or disinfecting liquids, and thus stimulating the uterine contractions and effecting the expulsion of the placenta.—*Journ. de Soc. Scientif.*

DOUBLE CASTRATION.

BY MR. FERRIER.

This is a case of the permanent rutting condition of a cow upon which double castration had been performed. But notwithstanding the operation, the animal continued to exhibit a periodical congestive condition of the neck of the genital organs. When killed it was found that a portion of one ovary had maintained its attachment to the stump of the broader ligament.—*Journ. de Soc. Scientif.*

CURIOUS ANOMALY IN A CALF.

BY MR. BARRIER.

A calf, born at term, and in good health, was without *anus* or *vulva*. The skin of the perineum, which was very fine, showed no mark of the anus, and the vulva was, strictly speaking, rudimentary. On the median raphe, a small cutaneous eminence only appeared, covered with fine hairs, and somewhat resembling the lower commissure of the vulva. In the middle of the eminence was a very small opening, scarcely allowing the introduction of a fine probe. Within an hour after its birth the little animal was making constant and violent expulsive efforts, but of course without result, except that at each effort, at the place where the anus ought to be, there appeared a tumor of the size of a hen's egg. Of course it became necessary to furnish a vulva at once; which a cut of the bistoury sufficed to do, and the escape of a mixture of *urine* and *meconium* immediately followed. Exploration revealed the rectum as a natural opening in the roof of the vagina, about four centimeters in front of the proper seat of that opening.

An operation was then devised for the formation of an artificial anus, which an incision of the bistoury soon accomplished. A few stitches brought the edges of the skin and rectal mucous membrane together, and the animal was soon able to defecate through the artificial exit. Three months have elapsed, and the heifer has become well grown and is in perfect health, with the exception that though some of the feces pass through the artificial anus, a large portion of them is ejected by the vulva.—*Journ. de Soc. Scientif.*

TREATMENT OF SPRING-HALT BY SHOEING.

BY MR. MONTAGNAO.

Spring-halt is a characteristic lameness, in which the posterior leg is suddenly flexed at the hock, sometimes so strongly that the fetlock and foot nearly come in contact with the abdominal walls. The treatment of this affection, originated by Mr. Watrin, is carried out by proper shoeing, and is based on the following theory:

The flexor tendons of the phalanges gliding upon the posterior pulley of the tarsus, it is not possible to flex that joint without flexing the phalanges also. Let us suppose that from any cause the flexion of the phalanges is interfered with or prevented. The animal will then instinctively endeavor to overcome the difficulty, and if this ceases suddenly, the force applied by the animal will necessarily bring on an excess of flexion at the hock—hence spring-halt. Again, if there is a contraction of the external quarter of the foot, this will produce pressure on the lateral cartilage, and the result must be an interference in the play of the movements of the os pedis in its flexion, again resulting in spring-halt. The conclusion reached is that if by special shoeing the lesion of the foot (contraction) is cured the lameness will be relieved.—*Journ. de Societes Sient.*

CORRESPONDENCE.

VETERINARY EDUCATION IN AMERICA.

Editor American Veterinary Review :

I see you again broach the above subject in your last issue, and take exception to the fact of the apparent apathy of your readers and the veterinary profession at large in the matter. I think, however, I dare hazard the assertion that the indifference is only *apparent*, as from conversations with many members of the profession, there seems to be a unity of opinion, that the standard of veterinary education in this country, should—to keep pace with the advancements made in other countries—be raised ; but as to how that should be accomplished there does not seem to

be general agreement, except, perhaps, on one point, viz: the necessity of a longer course of studies. That a two years' course, as given in colleges of this country and Canada, is too short, is not to be denied; even recent graduates of these schools have acknowledged the hard work and strain that is necessary to gain a sufficient knowledge of Anatomy, Physiology, Pathology, Chemistry, Materia Medica, Therapeutics, Surgery, Obstetrics, Theory and Practice, etc., etc., into two short terms, to enable him to pass an examination that will entitle him to his diploma. With all this theoretical part of the business to go through in so short a time, what chance has he to get any practical knowledge? It is safe to say that seven-tenths of the graduates leave college as theorists of veterinary medicine, without the most simple practical ideas that might be expected even from a coachman. His very first case is approached with a certain want of confidence; this, coupled with his lack of practical capabilities, brings disaster, and the result is that before he is given a chance to display his educational knowledge he is told to get himself to a warmer clime, and the practical, or so-called quack, is called in, who, if not as acceptable to the patient, is more so to the practically educated eye of the owner. If a longer course were demanded, and the student obliged to finally pass those portions of the curriculum that tend more to the theoretical part of his education, at the end of the second term, not being allowed to enter upon his third term until he had done so, would perhaps remedy the evil, as it would give him more time to apply to the more practical part during the last term. Then again, should he not have been obliged to produce proof from some known veterinary practitioner, that he has assisted him in his practice during the interim of the sessions, before being allowed to matriculate for the third term? This would, I think, be the means of sending out such graduates as would be an honor to their alma mater and a credit to the profession.

Now that classical colleges have thought proper to recognize the profession, by giving a course of lectures on veterinary subjects, we might expect to have largely multiplied the already too prevalent evil. Not only this, but it will intensify it a hundred

fold, as how can a proper veterinary education, with its necessary many branches, be rightly and honestly imparted by one teacher?

They are simply side attractions to catch the popular idea and dollars from men—if such they could be styled—who want a diploma, irrespective of its value; such men as will ever prove a stumbling block to the progress and science of veterinary medicine.

This subject was brought forward at the meeting of the United States Medical Association held at Cincinnati, O., a year ago, and referred to a special committee. What have they done in the matter?

W. H. PENDRY, D.V.S.

OBITUARY.

A. P. WEEKS, D.V.S.

Arthur Philip Weeks was born in New Orleans, La., in 1857. He was a son of John P. Weeks, a successful merchant of New York city, and grandson of Samuel C. Jollie, a noted music publisher of that city. "Artie," as his friends always called him, was left an orphan at the age of three years, by the death of his father from consumption, at Galveston, Texas, in 1861. He was brought to Ellenville by his widowed mother, and resided there until his growth to manhood. He was always an intelligent, active, well-conducted lad, and gained an excellent education in the village schools and the Ulster Seminary. He afterward took a full course at the American Veterinary College, graduating as D.V.S. in 1880. After a short practice at Ellenville, he located at Poughkeepsie, and was making his mark in his profession when a severe hemorrhage of the lungs, said to have been the result of over-exertion, prostrated him. He returned to Ellenville, and, after a rest, decided to locate in Colorado. He proceeded as far as Kansas City, where his medical adviser cautioned him not to proceed to Colorado, asserting that the climate was too cold for his weak health. He

accordingly settled in Kansas, practicing his profession for several months, but, contracting malaria, he returned to Ellenville. With his health much benefitted by a rest, he settled at Paterson, N. J., about three years ago, where he speedily built up a lucrative practice. The recurrence of malaria gradually undermined his health, and led to the development of undoubted pulmonary phthisis. He refused to accede to the urgent requests of his near relatives to give up his business until the past summer, and then it was too late for rest and medical care to do more than briefly prolong his days. He died at his old home, Ellenville, sincerely mourned by members of his profession, friends and relatives.

A TRIBUTE TO THE LATE DR. WEEKS, OF PATERSON, N. J.

At the late meeting of the Veterinary Medical Association of New Jersey, the Secretary, Dr. Wm. Herbert Lowe, introduced the subjoined resolutions, as follows: "As the late Dr. Arthur P. Weeks was a worthy member of our Association, and a brother practitioner of my city (Paterson), I feel it my duty to take advantage of the present opportunity to pay a slight tribute to his memory. Although time had not permitted me to be intimately acquainted with Dr. Weeks, yet I had ample opportunity to learn much of his personal character and conduct. He and I met professionally on several occasions, and I was so impressed by his considerate and honorable behavior as to have often spoken of these good qualities in Dr. Weeks to my friends and acquaintances. I may add that in the course of my practice I have had a good opportunity of knowing that Dr. Weeks was highly respected by his clientage, and that there are many people in Paterson who, like myself, heard of his death with sincere sorrow. I therefore respectfully submit the following:

Whereas, the late Dr. Arthur P. Weeks was a worthy member of our Association, therefore be it

Resolved, That we express our sincere sorrow for the loss of so true a friend of veterinary science, and that we unite in deep sympathy with his relatives in their affliction.

Resolved, That the death of our friend at the early age of 27 years, and especially as his young life gave promise of a highly useful and honorable career, causes us to feel all the more the present bereavement.

Resolved, That these expressions of our sorrow and sympathy be recorded in the minutes of our Association, and that a copy of the same be forwarded to his family.

[Unanimously adopted.]

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of the New York State Veterinary Society was held on Tuesday, October 13, 1885, at the American Veterinary College, the President, Dr. R. A. McLean, in the chair.

Members present were Drs. Field, Dixon, Coates, J. S. Cattanaeh, Pendry, R. A. Finlay, Foote, Crane and Charun.

Minutes of last meeting read and on motion adopted.

The discussion on Dr. Kay's paper was laid over.

The Chair called for report of Board of Censors on nominations before them. The Secretary stated he had only received a verbal report to the effect that Dr. Billings had not authorized his name to be put in nomination.

The President called Dr. Finlay to the chair, and on taking the floor, stated he had nominated Dr. Billings at that gentleman's request.

Dr. Finlay raised the question as to Dr. Billings being a resident of the State. The Chair holding that he was, Dr. Foote called attention to the fact that there were several non-residents of the State on the roll.

On motion the matter was left over to get full report of Board of Censors.

Dr. R. A. Finlay addressed the meeting on the matter of filing papers of amalgamation, the City Clerk having refused to file them, as they contained nothing that had to be recorded, when it was moved by Dr. Dixon, and seconded by Dr. J. S. Cattanaeh, that the report be received and committee be discharged, and the paper deposited in the archives of the Society. Carried.

Dr. Field addressed the meeting on the subject of Legislative bill to be again brought forward at Albany, and moved that a committee of five be appointed by the Chair to draw up bill and report at next meeting.

The Chair appointed Drs. Field, Cattanaeh, Coates, R. W. Finlay and Birdsall to take charge of bill and report on draft of same at next meeting. Carried.

Meeting then adjourned.

The regular monthly meeting of the New York State Veterinary Society was held on Tuesday, November 18, at the American Veterinary College, New York, Dr. R. A. McLean in the chair.

Members present were, Drs. Field, L. McLean, R. W. Finlay, Coates, Dixon, Faust, Dimond, J. S. Cattnach, Cuff, R. A. McLean, R. Ogle, C. C. Cattnach, Birdsall and Pendry.

Minutes of last meeting were read, and that portion referring to the remarks of Dr. R. A. McLean on the subject of Dr. Billings, was altered to read, "That he had received his consent to present his name." With this correction, they were, on motion, adopted.

Dr. W. G. Cuff then read a paper on "Inflammation," in which he entered at considerable length into the different causes, stages and treatment.

The reading of the paper led to quite a discussion between Drs. McLean and R. W. Finlay, as to the different causes. Other points were raised by Drs. Dixon, R. A. McLean and others, and duly replied to by the essayist, who received a vote of thanks for his paper.

Dr. R. W. Finlay then read a paper on the "Necessity of Legislation for the Profession," he holding that the profession must show some reason outside of one of benefit to itself, before any bill could be expected to pass. The paper contained many strong and good points, and was well received by those present.

Dr. Field expressed his pleasure at hearing the paper read at such a well-timed moment; as did also Drs. McLean and Faust, the former holding that the Society should try and get the press to take the question up. Dr. Dixon thought it best, if Dr. Finlay would revise his paper and send it to the press. Dr. Finlay said the subject was one of such general importance, that if the Society thought well, he would do as suggested. A motion to that effect was passed, with a vote of thanks for the paper.

Dr. L. McLean moved, seconded by Dr. Field, that the revised paper of Dr. Finlay be read and discussed at the next meeting of the Society, and that means be used to get reporters to be present, and that, if necessary money be spent to that effect.

Dr. Dixon thought that the live stock interest of the country should be considered besides that of health.

Dr. Birdsall offered a suggestion that the next meeting be held in some public place. Dr. Dixon objected to this.

Dr. L. McLean said he would much rather have his motion put as it was.

The Chair thought it best, if he were allowed, to name three or four members to present papers at the next meeting on the subject.

Dr. Finlay suggested too, that the subjects be named also.

The motion as first made by Dr. L. McLean was carried.

The Chair called for report of Board of Censors on nominations before them.

The Secretary stated he had not received any.

Vice-President Dixon was called to the chair, when the President took the floor and addressed the meeting on the subject of Dr. Billings' nomination. He claimed that by the report of the Secretary at the last meeting, he had been placed in a very unpleasant position; and to place himself in a proper light before the Society, he had written Dr. Billings on the matter, and had received a reply,

which he read, and which was to the effect that he had been asked if he had *asked* to have his name put in nomination, and had replied "No," but that he had given his consent to be nominated by Dr. R. A. McLean.

A very warm discussion followed; and from which it appeared, that if Dr. Billings had, after giving the reply, "No," explained to the chairman of the Board of Censors, as he had done in his letter, there would have been no misunderstanding and hard feelings in the matter.

After a warm discussion it was moved by Dr. R. A. McLean, and seconded by R. W. Finlay, that the by-laws be suspended. Carried.

It was then moved and seconded by the same gentlemen, that under suspension of the by-laws, the name of Dr. F. J. Billings be withdrawn from the consideration of the Board of Censors, and that he be ballotted for as a member of the Society. Carried.

On motion, the Secretary cast a ballot for the whole in favor of the candidate, when the by-laws were on motion, re-enforced.

Dr. Field, chairman of Committee on Legislation, reported, and handed to the Chair a draft of a proposed bill, which was read by the Secretary.

Dr. Pendry moved that the draft of bill, as presented by the committee, be accepted; stating that it was precisely the same that had been so fully discussed, with the exception that there was no examination clause in it, and to further discuss it would only result in a loss of time.

A disposition was shown by some to have the bill discussed, when the Chair reminded them that the bill ought to be in Albany when the Legislature met.

It was moved by Dr. Dixon, and seconded, that a special meeting be held in two weeks. Carried.

Dr. Dixon then called attention to the National Convention of the Cattle Growers of the United States, to be held in Chicago, Ill., on the 17th, 18th and 19th of November; and to the letter of Dr. Hopkins, calling a meeting of veterinary surgeons to be held at the same place on the 16th, who were to afterwards attend the convention. He moved, seconded by Dr. Birdsall, that this Society send a delegate to said convention, and that his expenses be paid out of the fund of the Society. Dr. L. McLean objected to the motion; he, too, did not think that any member should expect to have his expenses paid. He expected to attend as a veterinarian, and was willing to pay his own expenses. Dr. Finlay said the Society should certainly send a delegate; a representative of a body had certainly more weight than if he attended simply as a member of the profession. Dr. Pendry agreed with this idea, and moved as an amendment, that this Society be represented at the National Convention of the Cattle Growers of the United States, to be held in Chicago, Ill., on November 17th, 18th and 19th, and that Dr. L. McLean be appointed a delegate to represent the New York State Veterinary Society at said convention. Dr. Cattanaach seconded it, and it was carried.

On motion the meeting adjourned.

SPECIAL MEETING.

A special meeting was held at the Cooper Institute, New York, on Wednesday, November 25th, the President in the chair.

On motion, minutes of last meeting and roll-call were dispensed with.

The Chair explained that the meeting was called for the purpose of trying to create public interest in veterinary sanitary measures, the necessities of which would be laid before the meeting by Dr. R. W. Finlay reading a paper on "Veterinary Medical Legislation."

The reading of the paper then followed, which presented many strong points in favor of veterinary legislation, and was listened to by those few present, with considerable interest and attention.

The Chair called for a discussion, but little desire was evinced by the members present, except a remark by Dr. Charum, that it was hardly to be expected that public interest could be obtained, when the members of the profession showed so little. Dr. Pendry too, remarked that he considered the meeting, so far as its object went, a failure, and moved for an adjournment.

The President called Dr. Lockhart to the chair, and from the floor, advocated the paper and the objects of the meeting; he was followed by Dr. R. W. Finlay; when on motion the paper was referred to a committee to confer with the press, with a view to having it published.

The meeting then adjourned.

The regular monthly meeting was held at the American Veterinary College on Tuesday, December 8, the President in the chair.

Members present were, Drs. Burden, Coates, Cuff, Charum, C. C. Catanach. R. W. Finlay, Pendry. R. McLean, R. A. Finlay and R. Ogle.

Minutes of last regular and special meeting were read, and on motion, adopted.

There being no paper before the meeting, reports of committees were called for.

Dr. R. A. Finlay, as chairman of Committee on Publication of Dr. R. W. Finlay's paper, reported that they had done as requested.

On motion, report was received and committee discharged with thanks.

Dr. L. McLean, delegate to the Cattle Growers' Association, Chicago, reported progress.

Dr. R. W. Finlay then brought up the subject of the proposed Legislative bill, and asked if the members had not been each sent a notice of the meeting, with the information that the subject for consideration that evening would not be the proposed bill? On receiving an answer to the affirmative, he asked why the members were not present, and where could be found the committee that had been given charge of the matter? They had not thought proper to attend the last meeting, which was a special one, called for the particular purpose of considering legislative matters. He did not consider the present meeting a sufficiently representative one to take up the subject. If the last two meetings was an indication of the interest manifested by the members of the profession, he would move that the subject of the bill be entirely dropped, until more interest is manifested by the members of the Society.

Dr. Pendry moved that the members present proceed with the discussion of the bill. After considerable warm discussion, Dr. Finlay's motion was carried; which was followed by Dr. R. McLean moving that the Secretary be instructed to send a printed copy of the bill to each member of the Society, with a circular

urging them to be present at the next meeting, or to send their view to the Secretary before that date, etc; which motion was carried.

A copy of a petition from the army veterinary surgeons to the Adjutant-General, asking that the status of the veterinary surgeons in the army be raised from their present low one, was read by the Secretary. And on motion, the President and Secretary were instructed to petition the Adjutant-General to favorably consider the request.

Meeting then adjourned till the second Tuesday in January, to meet then at the Cooper Institute; or on a date as near that as possible on which a room could be obtained.

W. H. PENDRY, D.V.S., *Secretary*.

VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY.

The sixth regular meeting of the Veterinary Medical Association of New Jersey was held at the West Jersey Hotel, in Camden, Thursday, Dec. 10, 1885, the President, Dr. W. B. E. Miller, in the chair.

The meeting was called to order at 11 a.m., and the Secretary instructed to call the roll. The following members were present: Drs. S. B. Rogers, Westville; H. W. Rowland, Jersey City; J. W. Hawk, Newark; C. K. Dyer, Mount Holly; Wm. B. E. Miller, Camden; W. P. Smith, Trenton; L. R. Sattler, Newark; J. C. Dunstan, Morristown; W. P. Humphrey, Elizabeth; M. A. Pierce, Paterson; and Wm. Herbert Lowe, Paterson.

Among those present as visitors were; Drs. T. C. Sanford, Asbury Park; F. W. Hilyard, Mount Holly; W. H. Williams, Fellowship; and Wm. H. Iszard, M.D., Camden.

The minutes of the previous meeting were read and approved.

Dr. Smith proposed Dr. L. P. Hurley, of Camden, for membership; and Dr. Lowe proposed Dr. E. R. Mercer, of Montclair. The names of both gentlemen were referred to the Board of Censors, who reported favorably, and they were elected. Dr. Dyer proposed Drs. T. C. Sanford, of Asbury Park, and F. W. Hilyard, of Mount Holly. The Board of Censors did not report in regard to the two last named candidates. Action will be taken at the next regular meeting.

Two of the honorary members, Dr. E. M. Hunt, of the State Board of Health, and Dr. Julius Gerth, State Veterinarian of Nebraska, sent letters regretting their inability to attend. A letter of regret was also received from Dr. W. H. Pendry, Secretary of the New York State Veterinary Society.

The Treasurer's report was presented and accepted.

The new Constitution and By-Laws prepared by Dr. Lowe, since the incorporation of the Association under the Act of the Legislature for the advancement of veterinary science and art, were presented by him. Their consideration occupied most of the first session, but they were finally adopted substantially as prepared. That portion entitled, "The Code of Ethics," caused much discussion, but, was after all, adopted, with the exception of one sentence, and as adopted, is as follows:

"It shall be regarded as a grave offense for any member to speak disrespectfully of another, or by insinuation, or otherwise, to injure his reputation or professional standing. It behooves each member to do as he would wish to be done by, and to cultivate that sense of honor and piety which should invariably distinguish the professional man. As the Association aims to protect the privileges and immunities of its members, it is expected that they will exercise their abilities in extending and enriching the domain of comparative medicine and surgery, and in advancing the interests of the profession.

"No veterinary physician should prescribe for a patient having been treated by another member of the profession, unless the former has relinquished the case, or that the owner announces that he has dispensed with his services.

"In case of consultation, the consulting veterinarian should, so far as he can conscientiously, sustain the surgeon in charge of the case, and in no way, either by word or act, promote his own interests at the expense of his brother practitioner. He whose practice is based on an exclusive dogma, or rejects the accumulated experience of the profession, or ignores the aids of anatomy, physiology, pathology and organic chemistry, shall not be considered a fit associate in consultation.

"While it is essential for the veterinarian consulted to ascertain the true nature of the case, he should carefully withhold all discussion of the subject till his brother practitioner and himself meet in private for deliberation. When a conclusion is reached it will be the duty of the attending veterinarian to state the results to his client in the presence of the consulting veterinary surgeon. No opinions should be delivered, which are not the result of previous deliberation and concurrence. When diversity of opinion exists it may be proper to refer the case to several veterinarians, in good standing, or a court-medical. Still, in most cases, mutual concessions should render this unnecessary.

"All discussions in consultation should be confidential.

"Qualifications, and not intrigue or artifice, should constitute the foundation for successful practice.

"Any advertisement or announcement, beyond the name and address, shall be deemed unprofessional.

"Any advertisement or announcement of nostrums, secret remedies, panaceas, and all things of a like nature, shall be deemed unprofessional.

"The promising of radical cures, and the procuring of certificates regarding the same, or of operations with a view to advertisement, would be deemed reprehensible. It is also reprehensible for veterinarians to give certificates relating to patent medicines, or promoting their use in any way.

"There is no profession whose members are more tempted to practice double dealing than the veterinary; as for instance, in the giving of opinions regarding the purchase and sale of horses. Any member guilty of the offense shall be expelled from the Association.

"Any proposed alteration or amendment of the Constitution and By-Laws shall be submitted in writing to the Trustees, and should their approval be given, action will be taken at the next regular meeting of the Association. A two-thirds vote will be necessary to confirm the same."

Prior to the second session the members of the Association visited the farm of Michael Feenfer, a milkman at Pavonia, near Camden. The object of the

visit was to ascertain the sanitary condition of the farm. Certain publications had been made by a human practitioner, Dr. C. R. Early, of Ridgway, Elk Co., Pa., taking Drs. Miller and Dyer to task for an alleged want of professional knowledge, and as to their performance, or rather what he regards as the non-performance of certain duties in representing the State Board of Health. After making examinations the Association sustained the views and actions of Drs. Miller and Dyer. A committee consisting of Drs. Hawk, Smith and Pierce, were appointed to draft resolutions. They presented the following, which were adopted and signed by all of the members present :

We, the special committee appointed by the Veterinary Medical Association of New Jersey, in session here this day, to draft suitable resolutions condemning the grossly outrageous article published in the *Sanitarian*, written by C. L. Early, a physician residing at Ridgway, Elk Co., Pa., in which he attacks unjustly Drs. W. B. E. Miller and C. K. Dyer, do present the following :

Resolved, that we, as a veterinary association, do condemn the article as published, as a malicious falsehood on these gentlemen, whose ability and standing in the profession is well known to all of us ; and we endorse the action of Drs. Miller and Dyer in their treatment of the herd at Mr. Feenfer's, at Pavonia.

Resolved, that the Association, having in a body visited the herd of cattle and premises of Mr. Feenfer, testify that they found them to be in a first-class condition ; that the sanitary and veterinary arrangements were good.

Resolved, that a copy of these resolutions be published in the Camden papers, and that one be sent to the *Sanitarian*.

Dr. Rogers, of Westville, read a paper vindicating Drs. Miller and Dyer.

Dr. Lowe paid a tribute to the late Dr. Weeks, of Paterson, before introducing the following resolutions, which were passed, and ordered entered upon the minutes.

Whereas, the late Dr. Arthur P. Weeks was a worthy member of our Association, therefore be it

Resolved, that we express our sincere sorrow for the loss of so true a friend of veterinary science, and that we unite in deep sympathy with his relatives in their affliction.

Resolved, that the death of our friend at the age of twenty-seven years, and especially as his young life gave promise of a highly useful and honorable career, causes us to feel all the more deeply the present bereavement.

Resolved, that these expressions of our sorrow and sympathy be recorded in the minutes of our Association, and that a copy of the same be forwarded to his family.

During the second session quite a number of interesting cases were related, and views interchanged on the same.

Dr. Dyer moved that the Secretary be appointed a committee of one, with power, to take charge of such printing as may be necessary, including the new Constitution and By-Laws, stationary and certificates of membership. It was so ordered.

The Association adjourned to meet in Morristown, the second Thursday of next April.

WM. HERBERT LOWE, D.V.S., *Secretary*.

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The regular monthly meeting of the Keystone Veterinary Medical Association, held at 1526 Race Street, Philadelphia, Nov. 7, 1885, was called to order by the President, at 8:15 p.m.

The following members answered the roll call: Drs. Rodgers, Hoskins, Weber, Glass, Goentner, Zuill, Miller; and W. S. Kooker and Dr. Blank as visitors.

Minutes were read and approved.

Secretary reported having corresponded with delinquent members, and read a reply from Dr. Vance stating he hoped to be able to attend the meetings oftener in future.

As Article VII of the Constitution provided for the suspension of members two years in arrears for dues, the Secretary was instructed to notify Dr. Rowland of Wilmington of his suspension.

Committee on U. S. Veterinary Pharmacopia reported progress

Dr. Hoskins stated that he had interviewed some veterinary practitioners, and they had indicated a desire to enter the Association as associate members.

Dr. Zuill, chairman of Committee on Publication, reported progress.

Treasurer reported a balance in the treasury of \$39.84. Drs. Zuill and Glass were appointed auditors, who reported Treasurer's accounts correct.

Dr. Zuill moved a committee be appointed to revise the By-Laws so as to admit associate members. Dr. Miller moved the committee prepare a report to-night, which amendment was accepted. Drs. Miller and Zuill were appointed on the committee. After a lapse of twenty minutes order was again called, and the committee reported the following amendment:

Amendment III.—Practitioners of veterinary medicine or surgery in good standing, not graduates of regular schools or colleges, may become annual associate members of this Association by a unanimous vote of the members present at any regular meeting, provided their names have been proposed at a regular meeting, held at least one month prior to their election. And all such associate members, so elected, shall pay to the Treasurer of the Association the same annual dues as others members, and shall be entitled to all the privileges of the Association, except holding office and voting for officers and members of this Association.

The amendment was adopted.

Dr. Rodgers moved we have a question box, as suggested by Dr. Hoskins, where questions relating to veterinary topics be deposited and referred to members thought to be competent to give light on the subject; who should answer at the next meeting.

W. S. Kooker, C. Dyer, Thos. B. Raynor and Francis Bridges were proposed for associate members.

Dr. Glass read a paper on "Cerebro-Spinal Meningitis." A discussion followed which was quite interesting. Dr. Kooker spoke of having seen a great deal of it, but never saw a case on high ground, and thought it a disease peculiar to low lands. He cited a case where one of five was taken with the disease; the four remaining were moved to high land and did not have the disease. Dr. Rodgers thought it a filthy disease caused by malarial or typhoid causes.

Dr. Zuill was appointed essayist for next meeting, and Dr. Weber to cite cases in detail. Adjourned.

The December meeting of the Keystone Veterinary Medical Association, held at 1536 Race Street, Philadelphia, Pa., was called to order by the President, Dr. Hoskins, at 8 p.m.

Members present; Drs. Glass, Goentner, Hoskins, Miller. Visitors: Drs. Raynor, J. B. Raynor and W. S. Kooker.

Minutes of last meeting read and approved.

Committee on Publication reported nothing had been done since last meeting. Dr. Rodgers' manuscript on "Milk" was in the hands of Jenkins, of New York, but he did not know what he was going to do with it. Dr. Glass suggested the State Agricultural Society might use it in their report. The President instructed the committee to correspond with the State Agricultural Society; Liautard, of REVIEW; Billings and Conklin, of *Comparative Journal*; and Jenkins, veterinary publisher, and ascertain the best means of putting it in print.

Committee on U. S. Veterinary Pharmacopia reported progress. They had communicated with every college in the United States, but as yet nothing had been done; but thought something would be done during the coming month.

Amendment No. III to By-Laws as reported last month was adopted.

Dr. Zuill read a paper on "Spavins and Dislocations." He referred to fetlock and dorso lumbar articulations, with a promise to continue the subject at a subsequent meeting.

Dr. Glass read a paper on "Counter-Irritants." He rather condemned the promiscuous use, and thought they were abused in veterinary practice. He also condemned their use in diseases of the thorax, using poultices instead. A very spirited discussion followed, where adverse opinions were offered.

Dr. Miller was appointed to open the discussion on counter-irritants at the next meeting by preparing an essay on that subject.

Adjourned.

CHAS. T. GOENTNER, *Secretary*.

NEWS AND SUNDRIES.

PASTEUR AND HYDROPHOBIA.—It is not difficult to find much to criticise in Pasteur's experiments on hydrophobia so far as they have been reported. It should, however, be remembered that these experiments have not been published in detail, and it is not probable that many points of criticism which readily suggest themselves have escaped so acute and accurate an observer as Pasteur. In fact the main support of Pasteur's views lies in his established reputation as a cautious and far-seeing experimenter. As has been suggested in previous numbers of *Science*, it certainly seems a weak point that no micro organism or characteristic lesion has been discovered by which it can be positively demonstrated that

the disease which Pasteur produces in rabbits is hydrophobia. It has even been suggested that the disease of the rabbits is possibly only septicæmia. It will require a large number of observations on human beings before it can be proven that Pasteur's inoculations really prevent the development of hydrophobia.—*Science*.

PREVENTIVE INOCULATION BY A RUSSIAN PRIEST.—A Siberian journal states that in 1868, when the plague was killing all the cattle in the country, Father Andrew Joakimensky, of the Troitzky village, resorted to a desperate means in order to save his cows. He got some blood from a dying cow, saturated threads with that blood, and passed these threads through the ears of the healthy cows, numbering eleven. At the place where the ears were punctured there appeared tumors of the size of pigeon eggs. In a short time these tumors disappeared and the cows remained alive and healthy, though the rest of the cattle of that village perished.—*The Medical Record*.

BLOOD UNDER THE MICROSCOPE.—As between human blood and dog's blood, the microscope enables the expert to determine precisely whether a specimen is from a human being or a dog. But it is impossible to determine between human blood and a hog's blood.—*Scientific American*. * * * In a word, we believe the facts have been reversed. It should say that as between human blood and dog's blood it is impossible to tell, while between human blood and hog's blood it is certainly possible to tell. Prof. Wormsley says his measurements give, for man, 1-3,250; for the dog, 1-4,268.—*The Microscope*.

GLANDERS REPORTED PREVALENT IN SPRINGFIELD, ILL.—At the monthly meeting of the State Live Stock Commission to-day, reports were received of the slaughter of eleven horses in the State during the month, having been condemned as affected with glanders. The following assistant veterinarians were appointed: Walter Tomlison at Alexis, Hancock county; G. A. Pierson at Preston, Ogle county; A. Maguire at Joliet; James Anderson at Aledo, Mercer county; B. F. Swingely at Freeport, E. A. Pierce at Aurora, J. Stallman at Pontiac, Wm. Shepherd at Ottawa, W.

R. Elliott at Peoria, B. W. Newton at Springfield, S. W. Stinson at Quincy, and J. F. Reid at Decatur. Two horses were slaughtered during the month as having been exposed to glanders, and their owners were allowed an appraisement of \$75 upon each.

PLAIN TALK.—*The Breeders' Gazette* concludes its comments on some of the arguments advanced by the Chicago Live Stock Exchange, in opposition to the Bureau of Animal Industry, through its attorney, at the convention lately held in St. Louis, by saying: "How in the name of all that is fair and just can a stupid blunder made years ago by one who, as the Live Stock Exchange very well knows, has never had any connection with the Bureau of Animal Industry, serve to damn the careful work done by this Bureau within the two years it has been in existence? It is high time that this indicting of the Bureau for all the errors committed by others, and holding it responsible for the sensational tales of the daily press should cease. It is passing beyond the bounds of all decency and common sense and is unworthy of the men who are dealing it up."

HORSE-BREEDING.—M. Alasoniere has written a very sensible little book upon horse-breeding, which has been honored with a medal by the French National Agricultural Society. He gives first a discriminating account of the points which mark a good horse, and then proceeds to characterize the two principal equine types, *speed* and *strength* being their respective characteristics, or, according to his more elaborate definition, "type à étendue de contraction" and "type à intensité de contraction." His central idea as to the breeding is that the two types should not be mingled, because in the offspring incongruity results, one part of the animal inheriting its qualities from the mother, another part from the father. The wisdom of this precept he enforces by a discussion of the rules to be followed for the amelioration by breeding of special parts of the animal, and maintains that injudicious mixing of the two types produces horses of an incongruous build. To put the matter more bluntly, to get good colts the mare and stallion should resemble one another, else the colt

will be a hodge-podge of qualities not harmonious. The treatise is pleasantly written, and, though not properly a scientific work, is still valuable for, if we may be pardoned the phrase, its good horse sense, and we take pleasure in commending it to the notice of those engaged in rearing horses in this country.—*Science*.

THE MANAGEMENT OF STRAY DOGS.—The *Lancet* commends a London institution known as the Temporary Home for Lost and Starving Dogs. Owing to the present prevalence of hydrophobia in London, there has lately been a great increase in the number of stray dogs cared for by the institution, for they are brought to its doors by the police. As many as nine hundred were received in the course of six days. Our contemporary points out a conspicuous service to humanity rendered by the home, in addition to the benefit to the dogs—that, namely, of keeping sick animals under watch until it can be determined positively whether they are or are not affected with rabies. If London, in the face of almost an epidemic of hydrophobia, can afford to be so humane to vagrant dogs, what excuse is there for our annual period of legalized brigandage, when the chief occupation of a set of miscreants termed dog-catchers is to steal or forcibly capture animals that are in no sense vagrant, merely that they may exact ransoms?

EXCHANGES, ETC., RECEIVED.

FOREIGN JOURNALS.—Veterinary Journal, The Veterinarian, Quarterly Journal of Veterinary Science in India, Journal of Zootechnie, Recueil de Medecine Veterinaire, Archives Veterinaire, Gazette Medicale, Bulletin de l'Academie de Medecine, Clinica Veterinaria, Revue fur Thierheilkunde und Thierzucht, Revue Scientifique, Schwerzer Archiv fur Theirheilkunde, etc.

HOME JOURNALS.—Medical Record, New York Medical Journal, American Agriculturist, County Gentleman, Prairie Farmer, National Live Stock Journal, American Cultivator, Scientific American, Turf, Field and Farm, Spirit of the Times, Breeders' Gazette, Maine Farmer, Druggists' Circular, Ohio Farmer, Medical Herald, The Polyclinic, etc., etc.

NEWSPAPERS, ETC.—The Medical Chronical, The New England Farmer, Home Circle, The Medical and Surgical Reporter, Cape Cod Item, Our Country Home, The Mayflower, Northwestern Live Stock Journal, The Farmers' Home Journal, Iowa Farmer, The Rutland Weekly, Toronto Advertiser, North Carolina Farmer, National Stockman Gazette, Empire State Agriculturist, Breeders' Weekly, Farmers' Home, Kansas Agriculturist, Farm Implement, Spirit of the Turf, Poultry Keepers' Guide, Home Journal, Farmers' Friend, Photographic Times, Western Rural, Northwestern Times, Indiana Farmer, Our Country Home, Northampton Democrat, Therapeutic Gazette, New York Weekly Times, News and Weekly Journal, Indiana Medical Journal, Albany Express, Our Dumb Animals, The Farmers' Friend, The New England Farmers' and Home News, Sheep Breeders' Gazette, etc.

CATALOGUES, ETC.—Northwestern Veterinary Medical Association Rules and Regulations; Bladen Utgegeven door de Vereensginglot Bevordering van Veeartsnijkunde, in Nederlandsch indie; The Physicians' Magazine; Albany Medical Annual; 16th Annual Report of the Manhattan Eye and Ear Hospital.

LETTERS AND COMMUNICATIONS: W. H. Pendry, D.V.S.; J. C. Myers, Sr., V.S.; J. Scheibler, D.V.S.; F. S. Billings, V.M.; H. F. James, V.S.; W. H. Lowe, D.V.S.; C. T. Goentner, D.V.S.; D. Dixon, D.V.S.; E. D. Salmon, D.V.M.; G. Agersborg, D.V.S.; J. Gerth, Jr., D.V.S.; J. D. Hopkins, D.V.S.

The Journal of Comparative Medicine and Surgery.

This well-known quarterly now enters upon the seventh year of its existence. It is especially devoted to Comparative Medicine, and is of as much interest to veterinarians as to physicians. The January number will contain the following original articles:

The Comparative Anatomy of the Pyramidal Tract, by E. C. Spitzka, M.D.

History of Tuberculosis, by F. S. Billings, V.S.

An Exhaustive Treatise on Milk, by Thos. Balfe Rogers, D.V.S., Veterinary Inspector of New Jersey.

An Article on Azoturia, by Richard W. Burke, M.R.C.V.S., Army Veterinary Department, India.

Also a Biographical Notice, with portrait, of George Fleming, M.R.C.V.S.

The April number will contain an original article on "Differential Diagnosis in Glanders" (published for the first time), by Prof. Schultz; translations of articles by Professors Growitz and Dieckerhoff on "A New Acute Disease in the Horse," and by Professor Degive on "Pleuro-Pneumonia; also an article on "Osteo Porosis," by H. F. James, V.S.

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AMERICAN VETERINARY REVIEW,

FEBRUARY, 1886.

EDITORIAL.

HENRY BOULEY.

While our December number was in the hands of the binder, the veterinary world was surprised and saddened by the sorrowful news of the death of Mr. Henry Bouley. Among those who loved and admired him we felt it to be our duty to be the first to announce the sorrowful event to our brethren on this side of the Atlantic, reserving to ourselves for a later period the task of entering upon a narrative of the life and labors of the great veterinarian, whose place in the ranks of his profession it will be, for years to come, so hard to fill.

Henry Bouley was born in Paris in 1814, and died on the 29th of November, 1885, after a protracted illness and much suffering. His career, from his entrance into the veterinary profession, has been one of distinction and eminence. Professor at the Veterinary School of Alfort, where for twenty years he was not only the teacher but the friend of many students, he became successively Inspector General of the Veterinary Schools of France, Member of the Academy of Medicine, Commander of the Legion of Honor, Professor of Comparative Pathology at the Museum of Natural History, and last, but not least, President of the Academy of Sciences, a position in the profession of medicine never before obtained by any veterinarian.

But of all his titles, that which it gave him the greatest

pleasure to hear was the designation of "the Boss" (*le Patron*), applied to him by those who attended his instructions.

But above all other things, Henry Bouley was a VETERINARIAN, and no man was ever more proud of any title than he of this. Veterinarian he was, nor would he consent to be anything else; and it is the judgment of the profession, referring to the achievements of Pasteur, that the work of that discoverer has, with Bouley's aid, produced effects in fifty years which would have required a century to accomplish without his co-operation.

A detailed account of the immense amount of instruction for which the profession are indebted to his writings would be an impossibility, and the *Recueil de Medecine Veterinaire*, of which he was the Director for fifty years, is a magazine of knowledge to which veterinarians of all ages will never cease to refer for instruction in their calling, and his *Chroniques* were an open tribune from which he announced all scientific discoveries to the world, whether made in the domain of veterinary science, or in the wider field of comparative medicine.

His book on "The Horse's Foot," his articles on "Glanders and Farcy," and on "Rabies," in the *Dictionnaire des Sciences Medicales*, the numerous articles contributed by him to the *Nouveau Dictionnaire Pratique de Medicine, Chirurgie and Hygiène Veterinaires*, numerous pamphlets on all subjects—these alone are sufficiently numerous to form the library of an ordinary veterinarian or medical man.

In his later years he published "Le Progres en Medecine par l'Experimentation," his lectures before the Museum of Natural History, and "La Nature Vivante de la Contagion," the last of which contains the expression of his faith and confidence in the scientific discoveries of Mr. Pasteur, of whom he had become the admirer, the great supporter and the strongest champion; and it was largely through his lectures, and his powerful and elaborate methods of elucidation and discussion, that the veterinary profession and the medical world soon became convinced of the truth of the noble results achieved and claimed by the great French chemist.

Bouley was—we repeat the phrase—a great veterinarian, a

wonderful writer, and an eloquent orator; and the place he occupied among the savants of France was but rightly and fairly his due.

But these are not the only grounds of our earnest regrets at his loss. His personal influence, his kindness of heart, his friendly bearing towards all men, had gained for him the affection and esteem of all who knew him. He could not make, or have, an enemy, and he had none. We, for our own part, who have been numbered with his students, and to whom he always accorded the most cordial treatment whenever, during our visits in Paris, we visited him at his home, can never forget how kindly he questioned us as to our progress in America; how solicitous he appeared, and felt, to know of the standing of our profession; and how sympathetically he tendered us his excellent counsel in respect to the labor which he knew we had chosen for our life's work.

Our latest parting, in August last, was most friendly, and we shall never forget his sad but kind smile when, in answer to our inquiry if he would come to America to assist in the International Medical Congress, he bodingly said, "No, my friend; my health will not permit it."

The funeral rites attending the burial of Mr. Henry Bouley were worthy of this great man. The students of the school at Alfort led the cortege, and were followed by delegations of the Professors from Lyons and Toulon, and after these appeared a long procession of other veterinarians. Many of the veterinary societies and other scientific bodies to which he had belonged had also appointed delegates, to give expression by their presence of their sense of an almost national calamity, and at the tomb speeches were made by representatives of the Institute of France, of the Museum of Natural History, of the Committee on Hygiene, of the Academy of Medicine, of the Veterinary Schools of France, of the Society of Acclimatation, of the Military Veterinarians, of the Society of Biology, of the Agricultural Society, of the Veterinary Societies of France, and of the Societe Centrale Veterinaire, which by his death has lost the last of its founders.

As it was impossible for us to attend the funeral from this remote distance, personally, it gives us a melancholy satisfaction to tender in this form an expression of our profound sympathy with the sorrow of his bereaved family and near associates; and we have no doubt that there are those in this land who will unite with us in such an offering of appreciative condolence.

VETERINARY LEGISLATION.

We have before, in our January number, referred to this subject, and we find occasion again to bring it before the attention of our readers. We have published the excellent paper of Dr. Finlay, and noticed the action of the society before whom it was read, and to-day we print a copy of a bill which has been prepared for presentation at Albany, together with a communication from Dr. Pendey on the subject.

We are informed that already another bill has been introduced in the Legislature, and are pleased to be able at a late hour to publish it.

Which of the bills will receive the support of the New York veterinarians it is not easy to say. The practitioners of the city of New York are well united in favor of that of the State Society, and are bound to defend and promote it by all possible means; and their success seems to be so certain that doubts appear out of the question as to the result, unless, as said one person very active in the movement, "there is a black sheep amongst us."

THE FUTURE OF THE VETERINARIAN.

We will not venture to say how many letters we have received, or in how many colloquies we have engaged, during our connection with the subject of veterinary education, in which the burden of inquiry has been the remunerative quality of the practice of the veterinary profession. "Does it pay?" "Can a veterinarian support his family?" etc.

These are, of course, practical and experimental questions, and are quite appropriate at the present time, and indeed, may continue to be quite as pertinent for years yet to come. The

veterinarian of to-day is a wonder of scientific knowledge, when compared with one of twenty-five years back, and possibly the man of fifty years hence will regard the practitioners of our times very much as we esteem our predecessors. But with all the deficiencies with which the veterinarian of to-day may be charged, a glance at the results obtained in practice in a pecuniary and honorary point of view may be fairly illustrated by the positions held by many of the alumni of our schools.

Perhaps amongst the prospective results which may be realized by the young veterinarians, there is none more effective than the fact that official appointments have now become obtainable by our regular graduates, and that these positions are capable of being made so essentially useful and beneficial to the public that salaries connected with the appointments are quite likely to be made of sufficient importance to encourage and reward any successful incumbent, if truly competent. This is fully proved by the results obtained by some of our State and Territorial Veterinarians who are now occupying these positions and receiving salaries varying from \$2,500 to \$5,000. The Territorial Veterinarian of Wyoming, Dr. J. D. Hopkins, who has now occupied the position for, we believe, a period of four years, has just received the appointment to a third term of office, at a salary of \$5,000. We sincerely compliment our friend upon his reappointment, but, above all, congratulate him for his success in making his profession so well appreciated that now the vast interests of the cattle-growing regions can no longer be separated from the care and watch of the veterinary practitioner, and not only, nor so much perhaps, as a practitioner of medicine, as a sanitarian.

Who will be the next to ask if the veterinary profession pays?

VETERINARY EDUCATION.

We have so often called the attention of our readers to this subject that it almost seems superfluous to present it again to their minds. But, after all, how great is its importance! Who shall say a depreciating word in the matter? We received a letter on the subject which we published some time ago, and to-day

we print another. A careful perusal of this one will not fail to show the necessity of certain changes. Yes, the modes of education are deficient in almost all our veterinary schools; are incomplete in some, and quite worthless in others. If we are ever to expect the recognition on this side of the Atlantic which is granted to veterinarians in the Old World, it is most urgently necessary that veterinary education should be differently regulated. It is time that those who intend to enter our ranks should feel that they become members of a profession than which none is more honorable and respectable. The question has been well enough agitated, still it has scarcely received adequate notice from veterinarians. The letter we publish to-day will, we hope, stimulate the enthusiasm of a few who will let us hear from them on this professional question.

ORIGINAL ARTICLES.

DISEASES OF THE HEART IN DOMESTIC ANIMALS, ESPECIALLY THE HORSE.

BY FR. BLAZEKOVIC.

(Translated by J. C. Meyer, Sr., V.S.)

Continued from page 414.

I.—PLASTIC EXUDATION

Is that previously mentioned form of exudation which adheres to the surface of the pericardium. In a mild degree of inflammation it forms a slight, scarcely perceptible deposit, which adheres to the free surface as a soft, easily torn, glutinous coagulation. Immediately after exudation, the fibrine coagulates and forms irregular, cord-like elastic coagulum. Its quantity is often very insignificant, merely representing a slight turbidity; still it may sometimes amount to several hundred grammes; its color is from pale yellow to pale green. Upon exudation of a large quantity of liquid plasma the pure fibrine changes into small granulations and can become reabsorbed after the inflammation has ceased.

That which does not reabsorb is organized into a secondary form of exudation as purulent, tuberculous, and secondary hemorrhagic exudation. Soon after the fibrinous exudation organizes, distinct cells are to be found, which adhere to one another and form the plastic exudation. Such fibres accumulate in various quantities and form pseudo-membranes and swardy exudation on the heart and peritoneal membrane.

In such case, the pericardium is always thickened, turbid and tender, covered in spots with rugged, wart-like, navicular secondary excrescences of cellular tissue. These cause chord-like, resembling thick snow-flakes, or rugged, partial protuberances projecting into the cavity of the pericardium. Such swardy coverings are traversed with vessels which generally have an extended course. According to their calibre these vessels arise above the capillary veins. After the resorption of the liquid exudation, the above mentioned snow-flake-like formations remain in greater or less dimension.

In fibrous exudation a calcification or cretification takes place after a deposit of chloride of lime, which is erroneously regarded as ossification, no trace of bony cells being found here.

II.—ALBUMINOUS EXUDATION.

This is often and mostly an attendant of fibrinous exudation, though sometimes it occurs independently. It consists chiefly of albumen and serum of a gelatinous, often oily consistence, of a uniform yellow color and very glossy. Its quantity varies from a few to hundreds of grammes. The albuminous exudation has not the organizable quality of the fibrinous. Cells are also formed in it, but upon their appearance the whole mass assumes a purulent aspect. It rarely maintains organizable power, and if it be not previously resolved, it changes to a sanious and purulent substance.

III.—SEROUS EXUDATION.

Serous exudation is an accumulation of serum in the cavity of the pericardium, and is only then to be regarded as proceeding from pericarditis, when it takes place, at the same time with fibrinous products. Serous exudation is very rarely found in the

pericardium alone, but the same effusions are present in the other parts of the body (as an indication of local or general dropsy). The serous exudation is transparent, thin liquid, light yellow—yellow-green, and not viscid. Fibrinous flakes float therein, which, however, accumulate very rapidly and form a covering over the pericardium. The serous effusion is apt to yield to purulent decomposition; still it can be easily resolved if no dense sward exudation cover the pericardium. According to the increase of the quantity, the exudation fills the pericardium partially, or wholly, and thereby determines the more or less alarming symptoms of disease during life. The pericardium expands according to the increasing quantity. The heart, as a specific heavier body, takes a deeper position, hence, with every pulse beat, a wave-like motion must arise in the liquid.

IV.—HEMORRHAGIC EXUDATION.

This consists of a quantity of serum, albumen, slightly coagulated fibrine, and an admixture of pigment. It is sometimes clear, brownish-red, or brownish-black, and of a primary or secondary nature. Its quantity varies, and with the exception of the change in color, it seldom succumbs to metamorphosis.

V.—PURULENT EXUDATION.

Purulent exudation is a secondary form, and can develop from any exudation which will admit of a change into pus cells. Generally it is an additional consequence of the development of fibrous exudation. The color is greyish-green, or greenish-yellow; the consistency cream-like, often thin liquid. The mass is always lodged between the organized fibrous tissue, so that pus, fibrous exudates, tissue and serum can be met with at the same time. Purulent exudation in the pericardium will only then become resorbed when the quantity is not too great; still the purulent liquid only resorbs, the pus cells become thickened (because they cannot pass through the walls) which thus absolved are less injurious. Under unfavorable circumstances the purulent exudation becomes sanious.

VI.—SANIOUS EXUDATION.

This is a thin liquid, grey-green, or greyish-brown mass,

which contains but very little fibrous material and always indicates a great diminution of vital power. If sanies has once set in, resorption is impossible. The change goes through the whole effused mass, and all formations with which they come in contact are affected by it.

VII.—TUBERCULOUS EXUDATION.

Tuberculous exudation occurs only then in pericardium, when the existing effusions become more fully developed, and tubercles are already present in the lungs and other organs, and the organism is predisposed to the development of tubercles in such a degree that everything turns toward tuberculous metamorphose. The result has been exhaustively described in another place. Just so much need be mentioned here, that where a tuberculous metamorphose took place, other exudations united with the tuberculous also occur.

VIII.—CANCEROUS EXUDATION.

This is also a change of the plastic albuminous exudations into cancerous cells in the pericardium, which appear in the form of a medullary tumor, in the shape of small knots upon the outer and inner surface of the pericardium. The cancerous mass itself and the existing serum are generally colored by a secondary hemorrhagic effusion.

IX.—DROPSY OF THE PERICARDIUM.

Dropsy of the pericardium is the accumulation of serous fluid without intermixed fibrine. This can take place in consequence of pericarditis, also without previous inflammation. A light yellow, yellowish-green, transparent, perfectly clear serum is found in various qualities. Sometimes it is also thin liquid, of a dirty brown or brownish-red color, often having a disagreeable odor. The muscular substance of the heart is at the same time tender, pale, easily torn and discolored. Dropsy of the pericardium occurs mostly in attendance with general dropsy.

X.—HEMORRHAGE IN THE PERICARDIUM

Occurs in consequence of rupture of the vessels, generally after traumatic influences. However, spontaneous hemorrhage can also take place if very important disturbances in the circulation,

overfilling and bursting of the vessels give cause thereto. Slight hemorrhages can pass over without leaving any trace, but greater ones can cause important disturbances. By the rupture of greater vessels death can occur instantly, not from a lack of blood, but by overfilling of the pericardium and preventing the heart's functions.

(E) INFLAMMATION OF THE FLESHY SUBSTANCE OF THE HEART.

Myocarditis.—An inflammation of the fleshy substance of the heart is generated by traumatic influences, foreign bodies, and the like. That part of the foreign body which penetrated the muscle of the heart and is not hidden in the fleshy substance, is as a general thing encased within a solid fibroid capsule. The point surrounded by fibrine projects entirely into the cavity of the heart; on the rugged edges, bloody, dark, fibrinous coagulations, sinewy solid white callosities are found, which in part penetrate the pericardium in form of ramified fibrous masses and partly take the place of the fleshy substance of the heart in various expansions. They occur mostly in the left ventricle toward the apex, and if they be extended, give cause to aneurism of the heart.

The muscular fibres are found in the different stages of softening and fatty degeneration. Small abscesses in portions of the softened and relaxed muscle of the heart are not rare, as also in pyæmic animals abscesses are found in the fleshy substance of the heart. The condition described here is also the same in myocarditis not of traumatic origin, and is congruent with this.

(F) INFLAMMATION OF THE INNER LINING OF THE HEART.

Endocarditis.—The anatomical changes and conditions show the following features:

Seldom diagnosed during life, endocarditis in horses is occasionally found as a complication with other diseases, such as inflammation of the lungs, pleurisy, peritonitis and acute constitutional ailments, also after large doses of digitalis. It attacks different portions of the interior lining of the heart; now the lining of the cavity partially; now the valves of the heart, or both simultaneously. However, the seat of the endocarditis is not

alone in the endocardium, but it extends to the adjacent cellular substance. The present exudation affects not only the upper layer of the pericardium, but penetrates through its permeable texture.

Endocarditis is manifest in the following manner:

1. Hyperemic, injection and sanguinous hue are to be found in the first stages of the disease, and if death follows suddenly, it is apparent on the valves and endocardium. In most cases this sanguinness becomes unrecognizable, due to the turbidity which soon ensues.

2. Turbidity and darkening of the endocardium, which is non-transparent and cloudy in different places, and appears unevenly tumefied. These turbid and thickened places are caused by the deposit of the inflammation product in the endocardium, and are not bordered nor circumscribed, but disappear in the surface of the tissues. At such places the endocardium loses its smoothness and gloss; it becomes pale, rough and felt-like. The deposit of exudation is often so important, that it softens the whole inner lining of the heart. Its texture is then easily torn and the true endocardium easily detached. Such loosening of the fibrous tissue of the valves occurs in inflammation of the valves; lacerations of the relaxed valve tissues are then frequent.

In endocarditis the exudation is important, no matter if the inflammation affects the lining of the heart or valves.

As soon as the epithelium is pushed off, the surface becomes wrinkled and loses its cohesiveness; then it generally appears covered with fine warty, lamellar like layers of fibrine, in consequence of which calcification is apt to take place. If such coagulations be carried with the blood and accumulate in the liver, spleen or kidneys, they give rise to metastatic abscesses.

Quite frequently protuberances from the layers of cellular tissue of the inner membrane are to be found beneath the fibrinous coagulations which appear in form of small warts, but can eventually shrivel up. Thickening and chalky concretions, particularly on the valves, are conditions which indicate the final metamorphose of the exudation. Transformation of the exudation into pus is a rare event, still it can be met with as infiltrated

purulent product, generally mixed with blood. These products give cause to ulcerous changes in the lining of the heart, and are always characterized by an obnoxious odor, discoloration, insignificant consistence, and a disposition to suppurating decay.

The result is, permanent solidification of the endocardium, whose significance corresponds to the magnitude of the inflammation and recurrence at the same place. On the one hand it is conditioned by the filtered products in the tissues, and on the other by the effused and stiffened exudation upon the free surface. Such conditions are found chiefly on the valves.

(To be continued.)

PHYSIOLOGY.

INFLUENCE OF THE SUN UPON THE VEGETATION, VEGETABILITY AND VIRULENCY OF THE CULTURES OF BACILLUS ANTHRACIS.

BY M. S. ARLOING.

In a former communication* we have shown that the solar radiations of July are capable of destroying, in two hours, the vegetability of the spores of the bacillus anthracis, when recently placed in a liquid nutritive culture. The effects of the sun are, however, far from being as rapid upon cultures already in process of growth. What these effects are, successively, upon the vegetation, the vegetability and the virulency of these cultures, will form the subject of the present discussion.

First.—If spores of the bacillus anthracis are made to germinate in a dark oven, at a fructifying temperature, and afterwards, within from 24 to 48 hours, the cultures are removed into a transparent oven admitting the sun during the day, and in an ice-chamber during the night, it will be observed that the vegetation of the bacilli is not entirely arrested by the action of the solar rays. When coming out of the dark oven, the culture contains mycelium, and forms spores; where the mycelium already con-

* See October issue.

tains spores, their number increases, their threads break up, some of them become free—in a word, the culture continues its evolution. This, however, proceeds more slowly, and in the same manner as when placed in media of less favorable nutritive quality. And in that case, the fragments of the bacilli often collect together in irregular masses, in which the spores form themselves, as in a kind of zooglia.

Second.—As to the vegetability of the mycelium more or less sporulated, the development of which has taken place in the dark chamber, it is destroyed only after 29 or 30 hours of exposure to a July sun, by a temperature varying between $+30^{\circ}$ and $+36^{\circ}$. It is understood that the vegetability diminishes by degrees, before it disappears entirely. If, after four, eight, fifteen or twenty hours of exposure to the sun, a drop of culture is transferred into others, it will be observed that the cultures of the second generation become less and less cloudy, in proportion to the period of time during which they have been exposed to the sun. And besides this, the appearance of the growth will take place more slowly. In bouillons at the temperature of our oven, a normal cultivation will present indications of growth after 10 or 12 hours; while another, exposed to the sun for from four to eight hours, will give no evident signs of vegetation before 20 or 24 hours; and if the culture had been exposed to the sun for 15 to 20 hours before, 36 or 40 hours will be required. It is worthy of remark that cultures which proceed from another already exposed to the sun are less resistant to insolation than those which come from a normal culture. For example, it is sufficient to expose to the sun, for nine or ten hours, a culture whose origin has been similarly exposed for 25 hours, to completely destroy its vegetability. A culture of the third generation, whose mother cultures have been so exposed, first for 17, and then for nine hours, has quite lost its power of fecundation after an insolation of 10 hours. If, however, an addition is made of the sums total of the hours of insolation, it is observed that the loss of vegetability takes place, in the average, after 27 hours. This well proves the clearness and gradation of the effects of insolation upon cultures of bacillus anthracis.

Third.—The modification of the vegetability of the cultures is associated with the attenuation of their virulency. If a culture is exposed to the sun, and if from this, at different times between the first and the 30th hour, a part of it is taken, sufficient to fecundate another culture, and to inoculate two guinea-pigs, a double series of interesting experiments may be started. While the cultures will become less and less cloudy, and the first marks of vegetation will be slower to show themselves, the guinea-pigs will first die with anthrax in the ordinary time, then at a later period, and at last will resist the inoculation. In the last case, the survivor will have obtained a certain immunity, varying in strength. It is towards the 30th hour of insolation that the cultures have become vaccinal.

Colored rays, which have little or no effect upon the vegetability or vegetation, have not produced an attenuation of the virulency. Cultures which have proceeded from spores that were exposed to the sun for a time not long enough to stop all vegetability, seem yet to possess a great virulency.

Fourth.—It is beyond doubt that sunlight can effect the attenuation of the virulency of cultures of bacillus anthracis, and transform them into a series of vaccines, as certainly as heat will. What remains to learn is whether the attenuation obtained by the sun's action is susceptible of preservation, nearly intact, and can be transmitted by generation. This will be the subject of further study. If the results were positive, one might judge of the ease and simplicity which would characterize the preparation of carbuncular vaccine during the summer. Whatever these may be, the facts at present known demonstrate that light is a biological agent of very great importance in the world of the infinitely minute.—*Acad. des Sciences.*

PASTEUR'S INOCULATIONS.—Pasteur has now treated seven Americans for the purpose of preventing hydrophobia. Of these it is not positively known that a single one of them was bitten by a rabid dog, unless it is Kaufman. The daily papers of the present week announce that the dog which bit him bit another dog, which latter has had signs of hydrophobia.—*Medical Record.*

PATHOLOGICAL PHYSIOLOGY.

PROGRESS OF THE LESIONS FOLLOWING THE INOCULATION OF TUBERCULOSIS OF MAN TO THE RABBIT AND GUINEA-PIG. APPLICATION TO THE STUDY OF INOCULATION AND RE-INOCULATION OF TUBERCULOSIS.

BY M. S. ARLOING.

First.—The progressive invasion of the lymphatic system by infectious substances which enter the economy by effraction; the inflammatory swelling of the glandular chaïres, marking out, as it were, the road followed by the virus, are notions long since accepted in pathology. In late years, Colin and Toussaint have made special applications of these items of knowledge—the first to the mode of progression of the tuberculous virus, the second to the determination of the seat of infection of anthrax. Still, if the infection of the organism generally takes place in this manner, it would be wrong to believe that it also always proceeds in that manner in all domesticated animals.

Among the numerous inoculations which we have for some time been making in the study of the relations that may exist between human tuberculosis and scrofula, we have observed interesting differences between the propagation of the tuberculous process in the rabbit and in the guinea-pig, which are quite worthy of consideration.

Second.—Several authors have already remarked the excessive sensibility of the organism of the guinea-pig to tuberculous virus; but no one, we believe, has insisted upon the relative weak receptivity of the rabbit. If we study the facts in two groups of guinea-pigs and rabbits, simultaneously inoculating with proportional doses of virus, we shall discover that after two months all of the former will present numerous and extensive signs of general infection, while amongst the rabbits a portion of them will escape the effects of inoculation altogether, while others will have lesions less numerous than those of the guinea-pigs, and perhaps only a single pulmonary tubercle. Instead of becoming tuberculous by almost everything, as it has been stated, the rabbit offers a comparatively powerful resistance to the virus of human tuberculosis.

Third.—The most important difference rests upon the propagation of the infection. In the guinea-pig, the virus is propagated by the way of the lymphatics, with perfect regularity. If an animal is inoculated on the internal face of the thigh, the corresponding inguinal glands become enlarged and hard, from the 10th to the 15th day—seldom later; the sub-lumbar glands of the same size become tumefied, the spleen becomes tuberculous; then the retro-hepatic gland, then the lungs and the bronchial glands. The infection remains unilateral as far as the diaphragmatic region, then somewhat indefinitely spreads itself to the right and to the left. In two months the infection is complete. When the inoculation is made at the base of the ear, the virus progresses toward the chest, successively affecting the lymphatic glands located on its way. Consequently there is, so to speak, not one guinea-pig inoculated under the skin that does not present a glandular tuberculosis.

In the rabbit, on the contrary, complete glandular tuberculosis has never been observed after inoculation with human tuberculosis. The local lesions are often either absent, or they only consist in small spots of granulations, or a caseous abscess; the visceral lesions are pulmonary or pleural; but, between the inoculated thigh and these organs, there is not the slightest lymphatic swelling. In two cases, however, where the local alterations had been accompanied with large abscesses, we have observed hypertrophy of the glands; but inoculation proves this not to be specific.

To resume: In the rabbit there is visceral tuberculization without glandular lesions; in the guinea-pig there are unmistakable marks of the passage of the virus through the lymphatic system.

Fourth.—We have sought for the cause of this difference, querying whether it did not reside in the physical condition of the infecting matter. With this in view, we made subcutaneous injections with sifted and filtered virus, and inoculated with the lancette of coarsely-marked tuberculous masses. The number of tuberculizations was smaller in the second case, but in the propagation of the disease its mode was always the same. The differ-

ence must therefore be attributed to specific organic characteristics of the animal species.

Fifth.—From these facts it results that the guinea-pig is better than the rabbit as a test of the tuberculous nature of a lesion. If the rabbit is used, it will be necessary to look carefully for the lesions, and to be satisfied with a limited number of visceral lesious changes.

And they also show that the problem of the re-inoculation of tuberculosis can be elucidated only upon the guinea-pig. Indeed, in any tuberculous inoculation affecting the lung directly, in the rabbit, it is impossible, in presence of pulmonary lesions, to decide whether these are due to the first or to the second inoculation. On the contrary, nothing is easier than to follow, in the guinea-pig, the positive effects of inoculation and re-inoculation. All that is necessary is to perform the first on the internal face of the thigh, then, when the tuberculous induration of the inguinal glands is well marked, to perform the second at the base of the ear. Thanks to the swelling of the pre-auricular and pre-scapular glands, it will be easy to know when the organism is under the effect of the second inoculation, which travels in an opposite direction, but towards the first. As evidence of the receptivity of tuberculosis, this experiment escapes all serious objection. It is superior to that which consists in merely reproducing a simple ulceration in the walls of which the bacillus of Koch is found, because in certain diseases, the inoculation of an active virus to subjects enjoying immunity may give rise to the formation of an abscess, at times ulcerous, whose pus and walls contain very virulent micro-organisms.—*Presse Veterinaire*.

AMERICAN VETERINARY COLLEGE—HOSPITAL DEPARTMENT.

Report of Cases by J. W. SCHEIBLER, D.V.S., House Surgeon.

CHRONIC NAVICULAR DISEASE—SUCCESSFUL NEUROTOMY— PYÆMIA—DEATH.

This is the case of a gray mare, seven years old, recently purchased by her present owner, Mr. M—— of this city. She had been for some time a sufferer from lameness, the seat of which

had been located in the shoulder, by several veterinarians. But when she was trotted out, it seemed clear that the near fore leg was the point chiefly implicated in the trouble. Her action was groggy, and when at rest the foot pointed. The shoe was considerably worn at the toe; the pasterns were nearly upright, and the heels were contracted. The foot was somewhat warm, and in fact, all the symptoms of navicular disease were present. The operation of neurotomy was recommended, as affording the only chance of rendering her useful to her owner.

With his consent and agreement to accept all possible complications and accidents, the patient was prepared for the operation, and on the second day after her admission, she was thrown down and the operation performed, without the least accident, except the division of a small vein as the nerve was being amputated at its lower end, the division giving rise to a very slight hemorrhage. The operation being completed the animal was allowed to rise to her feet, and was trotted up and down, her lameness having entirely disappeared, and the result of the operation fully confirming the diagnosis. The wound was immediately sponged, dressed antiseptically, and a cold water bandage kept on the leg.

On the following day the stitches of the two incisions were removed and the leg dressed.

For nine days, or until the 30th inst., the case seemed to be progressing in the most favorable manner. The wounds remained dry, the edges continued united, and all the appearances seemed to indicate a union by the first intention. So satisfactory seemed to be the condition of the patient, in fact, that it was in contemplation to request her owner to remove her to his own stable. But on the 1st of December a swelling appeared in the fetlock, not large as to its dimensions, but warm and painful, and her gait became stiff and awkward. Warm fomentations and poultices were ordered during the day. On the second day the swelling had so increased as to reach to the knee, the temperature rising to 102°, and the pulse to 40, though her general functions were otherwise in good order.

December 7th, temperature, 101°; pulse, 70; respiration, 16. The swelling was increasing, and had now extended to the elbow.

The animal was placed under alcoholic stimulants every three hours, the swelling being fomented several times a day, after being scarified in several places.

December 8th, the same condition continued. Temperature, 102° ; pulse, 39, respiration, 14. The whole leg had a very unhealthy appearance, with small gangrenous patches at intervals, the hair coming off around the patches.

December 10th, the swelling remained at a stand-still. A few small abscesses, which had formed at various points on the inside of the leg and along the course of the lymphatics, were opened and dressed with carbolic solution, with internal treatment by the same. Poultices and fomentations were continued during the day.

On the following day a few more small abscesses were found and opened, and a hard, round swelling was felt in the axillary region. The movements of the animal were accomplished with great difficulty, and fearing her inability to rise again when lying down, she was placed in slings.

December 13th, the temperature had risen to 103° ; the pulse remaining low, 39. Same treatment was continued.

December 14th, temperature, $103\frac{1}{2}^{\circ}$; pulse, 47. The abscesses were discharging freely. The animal having been removed from the slings, had laid down, but was unable to rise to her feet again. She was raised, and when standing seemed to have lost the use of her fore leg. The swelling of the axillary region had increased enormously, and pressure upon the brachial plexus was evidently the cause of her loss of power.

During the evening she became so restless in the slings that it was thought better to remove them, and in the morning she was found down, unable to get up, and in so critical a condition that she was destroyed.

At the post-mortem the leg was found to have been the seat of extensive purulent infiltrations, and the axilla that of an enormous abscess, containing several quarts of laudable pus. The wounds of the operation were granulating and had almost entirely healed. An examination of the navicular bone revealed the pressure of extensive ulceration of the fibro-cartilage of the posterior face, connected with a small cavity of the sesamoid bone.

Of all the complications likely to follow the simple operation of nenrotomy, this is, we believe, one which, so far as we can discover, has hitherto not yet been recorded.

URETHRAL CALCULUS IN THE CAMEL.

BY THE SAME.

The very peculiar structure of the penis of the camel, and the minute size of the urethra render the operation of urethrotomy an exceedingly difficult, and even in some cases an impossible performance. This fact is illustrated by the following case:

A young camel, the property of the Central Park Menagerie, of this city, was found one afternoon suffering from difficulty of micturition. He seemed to be affected with slight colicky pains, and would, while standing, stretch his hind legs backward and apart, in making efforts to urinate, but without effecting any change in the position of the end of the penis from its ordinary position. The contractions of the accelerator urinæ could be felt through the skin of the sheath, though the bladder was not, apparently, greatly distended, and there was no appearance of vesical calculus, as was ascertained by rectal examination. Tincture of opium was administered to relieve him from his colicky pains, and for a few days they seemed to be quite overcome, though he still occasionally assumed the position before described, but without passing any urine.

Having already met with two similar cases, and having failed of success in an attempt to introduce a catheter of the smallest size, but little hope of relief could be expected unless the urethral canal could be opened.

The animal continuing in the same condition for several days, it was decided to attempt the operation of urethotomy, in the standing position, if possible, or by the exploration of the urethra in keeping the animal down.

The operation having become imperative, he was brought to the hospital of the college and subjected to the knife. After injecting twenty drops of a solution of cocaine in the perineum, over the tract of the urethra, an incision was made on the median

line, and dissection made to expose the urethral canal. The deep situation of the penis between the two ischiatic tuberosities, with the powerful struggles of the animal and his unwillingness to maintain the standing position, rendered the operation impossible, and the division of the urethra at that point was necessarily abandoned.

Taking advantage of the recumbent position assumed by the animal, and in which he was kept with much difficulty, the legs were then secured by ropes, and an attempt made to find the urethral opening at the end of the penis. To effect this the sheaths and prepuce were divided on the lower border, and on the median line, and with great difficulty, the end of the penis was exposed. The organ at this point has a very small protrusion of mucous membrane, and on this the urethral opening was vainly looked for. The afternoon being advanced, and the light beginning to fail in consequence of a sudden change in the weather, a small portion of the organ, about an inch, was amputated, with the hope that the urethra might thus be found. Careful examination, however, failed to discover it, and it became necessary to leave the animal to nature and the chance of his mortally-critical condition. The parts having been washed and antiseptically sewed and dressed, the attempt thus ended.

The animal did not seem to experience much suffering from the operation. His temperature remained about 102° ; his appetite failed somewhat; he drank but little; but rumination had entirely ceased. For the purpose of giving him some relief from his stretching condition, the bladder was emptied by aspiration through the rectum, but of course with only temporary relief. On the second day after the operation the poor camel died.

At the post-mortem, extensive peritonitis was found, with a large quantity of fluid in the abdominal cavity, and the strong urinous smell of this fluid directed attention to the bladder, which was found ruptured. The kidneys were healthy, and the urethra, which scarcely admitted the introduction of a small silver probe from the ischiatic arch to its far end, had, at about eight inches from the end of the passage, a small calculus, scarcely the size of

a grain of corn, imbedded in the mucous membrane, which was at that point of a dark color, and undergoing mortification.

LARGE EPITHELIOMA OF THE PENIS.

BY THE SAME.

The importance of careful watching and of early operation in cases of cancerous growth of the penis is well illustrated by the history of the following case, which was presented to the clinic of the American Veterinary Hospital on the 29th of December, 1885:

The subject was a roan gelding, six years old, in a condition of apparently perfect general health, but suffering with epithelioma of the penis. About three months previous, a small wart had been observed upon the glands, which was cauterized with the apparent disappearance of any further cause of trouble. Recently, however, a very offensive discharge had made its appearance, bloody and purulent in character, and the scrotum became the seat a large swelling, which soon broke out at various points.

After some hesitancy on the part of the owner, who objected to the amputation of the member, which had been suggested by the veterinary attendant, the horse was at last ordered to the hospital for examination, and if deemed expedient, for treatment.

The animal was found on admission to be in the following horrid condition: Two enormous masses protruded through the opening of the sheath, that on the lower commissure measuring four and one-half inches in length, and one and one-half inches at its base, and hanging down, with a blunt end. The other mass, upon the upper commissure, was also very large, and somewhat spherical in aspect.

The animal having been prepared by cleansing and washing the parts with a carbolic disinfectant solution, was on the following day thrown down, in order to ascertain to what extent the diseased process existed, and to consider the propriety of surgical interference. On introducing the hand into the sheath, it came in contact with a large number of epithelial growths, varying in size, bleeding upon the slightest touch, and almost entirely closing

the cavity of the sheath. The penis was retracted and entirely destroyed, there remaining but a very short stump of a granulating epithelial mass, which could not be drawn outside of the preputial cavity.

The owner being notified of the state of things, orders were given to have the patient destroyed.

At the post-mortem examination it was found that several abscesses had formed and ulcerated in the sheath, and that the skin was covered with masses of epithelial enlargements, of various sizes. The stump of the penis was the seat of a large irregular cauliflower growth, and was covered with bleeding epithelial granulations. It was destroyed to such an extent that it was impossible to pull it out of the cavity of the sheath. The extent of the disease, with the condition of the organ destroyed by the existing cancerous degeneration, obviously contraindicated a resort to amputation.

COMPLETE LACERATION OF THE GASTRO-ENEMII TENDON— RECOVERY.

BY THE SAME.

On the 21st of November, a greyhound was brought to the hospital, with the following incomplete history.

While out hunting, the dog became suddenly very lame, and it was supposed that the injury had occurred to cause it when the animal jumped a barb wire fence. In doing this he had struck one of the barbs, which had made a small opening through the skin, and completely severed the tendon Achillis. As the animal walked, the lower portion of the leg was freely moving, no weight being carried on it, and a solution of continuity could be readily discovered. The separated ends of the tendon were about one inch apart, and the rupture was about an inch and a half from the apex of the os calcis.

The leg was immediately placed in splints, with the lower part well extended on the tibia, and allowed to remain in that condition until the 19th of November, when it was removed to ascertain how far the process of union had proceeded. It was found that both ends of the tendon were well united with a

strong band of cicatricial tissue, but which, though strong, was not yet sufficiently so to allow the limb to remain without artificial support. The splints were therefore again applied and allowed to remain for about two weeks longer.

As the bandage had occasioned some chafing of the skin at two or three points, these were dressed antiseptically until they were healed. On the 17th of December the whole apparatus was removed and the animal allowed to go home with a strong tendon.

The dog was quite lame when discharged, but this was supposed to be due to the atrophied condition of the muscles of the leg, and at the last report these were gradually returning to their normal size, and with this change the lameness is gradually disappearing. When last heard from the animal was entirely restored, and all that remained of his injury was a little thickening at the place of the lesion.

Careful examination of our veterinary literature seems to indicate that this is the first case recorded of so serious an accident being followed by such a radical recovery.

EXTRACTS FROM FOREIGN JOURNALS.

ENCEPHALOID CARCINOMA OF THE LIVER AND INTESTINES.

BY MR. J. BUROK.

This mare, aged twelve years, had been repeatedly laid up on account of sickness. In less than two years she had been laid up five times, with attacks of varying duration.

Her sixth attack of sickness dated from the 7th of February to the 20th of April, 1885. She at first showed complete anorexia and general prostration. She had lost flesh considerably; the skin was dry and coat staring. There was no discharge at the nose or any gland. No trouble appeared either in the respiration or the circulation. The appetite was capricious and the digestion difficult; fæces normal. Rectal examination and urinary analysis revealed nothing. The mucous of the eye was of a manifestly icterous color. In action the animal was very weak. Auscultation and percussion showed nothing abnormal.

No diagnosis was made of her case, and she was placed under observation with expectant treatment.

In a few days, she grew rapidly worse, and though her appetite had returned, through active tonic treatment, and her food was abundant and varied, she was afterwards sold and destroyed.

At the post-mortem the most remarkable lesion found was an increase in size and weight of the liver. This organ weighed ten kilograms (twenty pounds). It had lost its coloration and normal consistency. The surface was rough, bosselated in its whole extent, and covered with cancerous nodosities, of the encephaloid variety, varying in size. These tumors were round, whitish, soft and easily torn by the fingers. They occupied not only the surface, but the entire structure of the liver, in the form of infiltration. The tissue proper of the liver was atrophied and discolored. Along the course of the small intestine, in their first portion, on a level with the mesenteric glands, a glanglionic mass infiltrated with cancerous matter was observed, closing almost entirely the cavity of the intestines. The stomach, large colon, spleen, kidneys—in short, all the organs of the abdominal cavity, were exempt from any pathological lesions.

The microscopic examination of the tumor demonstrated it to be carcinomatous in character. —*Presse Veterinaire*.

ACTINOMYCOSIS.

By H. F. K. RICKELL, M.R.C.V.S., (Market Drayton Salop).

The case of actinomycosis recorded in a recent number of the *Veterinarian* reminds me of an identical case, to which I was called during the absence of my principal, Mr. Bampfield, Kettle Market, Drayton.

The subject of the disease was a red cow, three years old, the property of Mr. W. H. Joodall, of Stoke Grange, (the distinguished breeder of the Shropshire Down sheep.) On Wednesday, August 12th, I was requested to go and see the cow, which I was informed had been unwell for a fortnight, during which period she was unable to eat either hay or grass, but had been supplied with bran mash and gruel. I may here add that she had be-

come very much emaciated. Upon examining the tongue, I found it exceedingly swollen, hot and tender to the touch, its dorsum being studded with nodules, varying in size from a three-penny piece to a shilling. As I had not the means necessary for treating the case by me, I arranged to go over the following morning, when I cast the animal, and proceeded to scrape the nodules, and immediately afterwards applied the iodised phenols, so strongly and successfully recommended by Prof. Walley, in his treatment of this disease. The local treatment was aided by the administration twice daily of iodide of potassium, combined with vegetable tonics. On visiting my patient on August 15th, I found that the scraping and the iodised phenol had effected a wonderful and satisfactory change, but knowing the intractability of the disease, I thought it advisable to again scrape the affected parts, and to repeat the iodised phenol, and from this time recovery proceeded rapidly.

On Wednesday, August 19th, I saw the cow for the last time. The tongue had nearly assumed its normal condition, and there was no longer any inability to prehend or masticate food. She was subsequently turned out, the following week, and I have since learned has done exceedingly well.

It will be observed in these few remarks on this case, that my treatment differed from that of Mr. Gresswell, by the substitution of scraping for scarification, which I venture to think is a very important divergence, inasmuch as the whole of the debris is at once removed, and the implicated surfaces fully exposed to the action of the medicant.—*From The Veterinarian.*

HYDROCHLORATE OF COCAINE—ITS USE IN OPERATING ON THE EYE FOR FILARIA OCULI.

By J. MILLS, M.R.C.V.S., A.V.D., (Madras.)

Having heard a great deal regarding the advantages of the use of cocaine in operation on the human eye, I decided on the first opportunity to give it a trial. Fortunately, a case was admitted into the Government Civil Veterinary Hospital under my charge, on the 2d of June, 1885. The patient was a large waler

mare, extremely troublesome and nervous; in fact, it was with the utmost difficulty that anything like a good view of the eye could be obtained. I therefore cast her, when the parasite was clearly seen wriggling about in the aqueous humor. There was slight inflammation, with partial opacity of the lower portion of the cornea, involving nearly one-half of its surface, which was undoubtedly brought about by the case having been allowed to go too far before surgical aid was sought for, as the worm had been noticed in the eye fifteen days before the mare was brought to me.

This operation, although by no means new, has, I venture to think, never before been performed by the aid of this new local anæsthetic. Therefore I trust a short history of the operation and the drug will not be without interest.

I procured a solution containing one grain of cocaine in twenty-five minims of water, or of a strength of 4 per cent. The membrana nictitans was held back, and the solution painted over the surface of the cornea, conjunctiva and eye-lids, with a camel's hair brush. In about ten to twelve minutes complete anæsthesia had taken place, with considerable dilation of the pupil. I then made a small puncture with the point of a Macnamara cataract knife, well guarded with lint, at the upper portion of the cornea, through which the filaria escaped. In a little less than twenty minutes sensation returned to the eye. No inflammation followed the operation, and the case has done well from the first. The opacity is gradually disappearing, and patient will be discharged in a few days. I have found from considerable experience of these cases, that there is no instrument equal to the Macnamara knife.

This new local anæsthetic cannot but prove of the utmost value in veterinary practice, more especially in operations on the eye. It has only one drawback, and that is its high price. Previously, in operations of this kind, I always administered chloroform with the best results, and of course, although I have never had any accidents with chloroform on the horse, still the danger attending its use, compared with the cocaine, is great indeed. Therefore the latter must, for the future, act as a valuable and

safe substitute for chloroform in the production of local anæsthesia.

DESCRIPTION OF THE DRUG.

The plant from which the alkaloid cocaine is obtained is known to botanists as *erythroxylon coca*, a member of the North Carolina linacææ. It is a bushy shrub with numerous smooth leaves, which are lanceolate or somewhat oval in shape, and tapering towards the petiole. The flowers are small and of a yellowish color. The fruit is a little drupe, over one-fourth of an inch in length, ovoid in shape, quite plump and green, but furrowed longitudinally when dry. The coca plant is cultivated extensively in Peru, Bolivia, Colombia, and in some other parts of South America. It is said to thrive best in a moist, mild climate, at an elevation of 2,000 to 5,000 feet above the sea level. In this Presidency it is said to grow very well at sea-level on the coast, but its cultivation might be much easier and more profitable at higher altitudes. In some parts of South India a species somewhat resembling the American one, viz: *erythroxylon monogy-num*, is said to grow well, where it is known as devadaree, and adavi goranta. The therapeutic value of this shrub has not yet been determined.—*From the Veterinary Journal*.

NOTE.—Since writing the above the mare has been discharged from the hospital, with complete restoration of vision, and no opacity of the cornea, twenty-four days after the operation.

COMPOUND COMMINUTED FRACTURE OF THE PHALANGEAL
BONES IN A DOG TREATED SUCCESSFULLY
BY AMPUTATION.

BY F. C. MAHON, M.R.C.V.S., Southsea.

I hope the accompanying history of a case of fracture implicating the digital bones, comprising a portion of the right phalanx of the dog, may be considered worthy of insertion in the *Veterinary Journal*. It was the first case of the kind I have actually had to personally treat, and it was very interesting to me.

The animal was a well-bred Manchester terrier, who on the afternoon of the 8th of August received injuries from a bite by a mastiff, resulting in a compound comminuted fracture of the

above-mentioned structures. The history of fractures implicating such bones as the radius and ulna of the fore limb, and femur of the posterior extremity, is well known, together with the causes so fertile in their production. This case is interesting from the successful results which followed amputation after all hope of saving the foot was gone, owing to the rapid necrotic changes which supervened. Primarily, the treatment adopted was in accordance with the recognized principles of modern surgery, viz., (1) reduction of the part, or bringing the displaced portions into their normal position; (2) maintaining them in such position until repair had been effected; (3) preventing or combating the local and general accidents.

Manipulation of the foot on the evening of the 8th of September revealed a compound comminuted fracture of all the digits, except the first, of the right foot, as well as the inferior portions of the metacarpal bones. There was much laceration of muscular structure, with several deep wounds communicating with the fractured bones, which comprised a number of pieces. Temperature registered 102.5° F., as taken per rectum; respirations hurried; rigors; profuse sweating, notably at the neck and flanks, with groaning—all indications of severe pain. The diet of the patient was attended to some hours following the preceding treatment, and was readily partaken of. Thirst considerable, and continued for several days, and was a notable feature of the case. As prostration was manifested on the 9th inst., stimulating tonics, as spts. ammon. con., tinct. gent. con., equal parts, were administered morning and evening.

On the morning of the 11th of September, notwithstanding the precaution adopted by disinfecting the parts, a discharge of a sero-sanguineous nature continued with much fœtor, and, as was to be expected, œdema of the foot, which was now cold and denuded of hair. Examination revealed structural alterations of a necrotic nature, which had rapidly seized upon the digits particularly, and would shortly have affected the metacarpals. The terminal portions of the following structures more particularly were easily distinguishable, viz., ext. oblique of metacarpus, long abductor and short extensor of the thumb, and the common extensor

of the digits, with the sheaths of the various and numerous distributed nerves of the digits. The ordinary measures for amputation were resorted to, and as but slight connection now existed, removal was accomplished with but little pain to the patient. Slight hemorrhage, arterial, followed for a short while, presumably from the palmar, or collateral artery of the digits, which was soon arrested by pledgets of cotton-wool disinfected with liq. acid. carb., and the exposed ends of the bones scraped and covered with bandages. Temperature up to 16th inst. has ranged from 103° to 102°, at which it now stands. No very perceptible constitutional symptoms have developed since the operation; appetite continues good, and the sequelæ of surgical interference to be dreaded, such as surgical fever and septic infection, etc., appear to be in abeyance, the case bidding fair to have a very successful issue.

As we are not so solicitous for the canine host in such cases as in pedigree, shorthorn and other valuable breeds of cows, where the carpus and metacarpus are fractured and it is necessary to affix a wooden leg to the remaining portion of the limb—as witness the case reported by Driffied correspondent concerning the feat of Mr. Snarry, a veterinary surgeon on the Westow Grange farm, near York, where a valuable cow sustained damage to her leg, resulting in fracture—I am not aware that similar measures have been resorted to in the case of our canine patients, and would wish to be informed as to whether, in their treatment, means have been adopted of a like nature to the above.—*Veterinary Journal*.

RUPTURE OF THE DIAPHRAGM.

By J. HOWE, pupil of Mr. Poyser, F. R. C. V. S. (Ashbourne.)

ON Thursday, October 1st, we were requested to attend a bay cart horse ten years old, the property of a baronet in this neighborhood. The animal, whilst standing in the farm-yard preparatory to the day's work, had been perceived to be uneasy, was returned to his stable, and his movements watched. Thinking it only an attack of colic, anti-spasmodic remedies at hand were

administered, and the animal walked about; these failing to give relief, our attendance was desired.

On our arrival at 1 p.m. (four hours after the first symptoms of uneasiness had been perceived), we found the animal in a profuse perspiration, even the extremities were literally quite wet; pulse eighty, full and strong; respiration varied by paroxysms of pain; extremities alternately hot and cold. On inquiry we found pultaceous fæces had been passed, but the animal had discharged no urine since being unwell. Examination per rectum revealed nothing abnormal, the bladder containing but little urine.

Always declining on the same side, he would utter a most piteous groan on reaching the floor, from which he would immediately spring on to his fore-legs, reminding one of the position which a cat or dog assumes when sitting upon their haunches.

This peculiar position seemed to afford the animal perceptible temporary relief, and he would turn his head towards his left side; when standing he would look to his right or off side. Our prognosis was unfavorable, as a rupture of some of the internal viscera was diagnosed.

From the symptoms, it was evident that our patient must eventually succumb; but in order to satisfy our client (who believes that while there is life there is hope) we adopted such remedial measures and treatment as we thought advisable. All, however, were, as anticipated, of no avail, the animal dying at 4 a.m. on Friday morning.

To me this case, so far an instructive and interesting one, had as yet its particulars to reveal.

The result of a post mortem examination next day was that the whole of the intestines were more or less in an inflamed condition, as was especially the peritoneal lining of the inferior abdominal parietes. The large intestine, and more especially the stomach, were very much distended with green food. On removing these it was at once seen that a rupture of the diaphragm had taken place, and that such rupture was ante mortem was evident by the greater intensity of diseased acti around it. The lesion was in the tendinous structure of the diaphragm, about five inches from the sternal attachment of its more muscular surroundings,

and was by measure in extent about six inches in an upward direction.

As to the cause of such a rupture it was thought that the horse, subsisting, as it did, mainly on green food, had eaten too freely, and in galloping down hill (the farm being a very hilly one) with its over-extended stomach, by a sudden check or plunge had caused the rupture.

The peculiar position before referred to assumed by the animal at frequent intervals, I believe, has been considered diagnosis of ruptured stomach; but I can understand its being far more symptomatic of lesions in the diaphragm, especially when we have an overcharged stomach or a hardened liver pressing upon this vitally important structure.

I believe that lesions of this important muscular septum are more frequent terminations of the lives of many horses than are supposed.

I hope my desire to trespass on the space of this valuable journal will be pardoned, but as veterinary literature on this subject is somewhat vague, I thought the case might prove as interesting (if not instructive) to some readers as it is to myself.—
From the Veterinary Journal.

CORRESPONDENCE.

IMPERFECT VETERINARY EDUCATION—IS IT TRAFFIC IN VETERINARY DIPLOMAS?

It is a well known fact, even advertised in *The Spirit of the Times*, that junior students can enter a certain veterinary college at any time up to the 4th of January. During my career as a student at a provincial college, I observed that junior students were actually admitted as late as the 26th of January. Then, as at present, they advertised a special course or class for junior students, to begin early in January; though, in reality, there was no special course or class established for junior students, and there was only one course and class for junior students, which began at the beginning of the session or opening of the college, late in October or early in November.

Fully nine-tenths of all students in the junior class left college during the first week of the month of March, and that too, without being required to undergo or pass any examination as junior students. Of course, a few, perhaps a dozen of the students in the junior class, remained and attended college until the close of the session, then passed a so-called junior examination, which entitled some students to receive small prizes, while others received only honorable mention in the annual announcement of the college. There was not ten per cent. of the junior class examined on any subject pertaining to their studies as junior veterinary students.

About three-fifths of the students in the junior class manage to attend college only a part of a session. Those "short cut" students usually return at the beginning of the next session, are not required to undergo or pass any examination, but are generously registered and entered as senior students, and fully ninety-five per cent. of them graduate and receive diplomas at the close of the session. There are some senior students who do not attempt to study or even pretend to know anything about veterinary science, and such students are occasionally compelled to attend a part of a third session, which costs twenty-five dollars; though in some cases those students do not attend any part of a third session, but merely pay their fee and then appear before the Board of Examiners, which usually meets during the latter part of the month of December.

Take into consideration the fact that there is neither spring or summer session, and it is evident that attendance at the lectures in a veterinary college for a period of five or six weeks must necessarily constitute a very brief experience as a junior student. Such liberality might be considered "worthy of a better course," if they did not always charge a full fee as if the junior student attended a whole session, instead of only a part or fraction of a session. There is no matriculation examination of any kind, and the only requirements and qualifications necessary for admission is the ability to pay the college fees, which are very moderate indeed.

A fee of ten dollars is invariably charged for the diploma,

although such is not mentioned in the annual announcement of the college. Clinical instruction is entirely ignored, and is not a part of the curriculum.

When a student enquires concerning the ailment of a patient in the college infirmary, "one of the assistants" will impolitely inform him that it is "a very severe case of sailor's gripes or gorman rattles." It is needless to mention that one session was sufficient to gratify their ambition to study in the said veterinary college.

Is it any wonder that some of the State veterinary medical associations do not hesitate to admit quacks and charlatans into membership in their respective associations, and even grant them certificates of membership as veterinary surgeons?

The majority of the regular graduates composing the body of the Ohio State Veterinary Medical Association are graduates of the same veterinary institution. Therefore the purport of that circular or letter, which Prof. Liantard received from them, and which was subsequently published in the *AMERICAN VETERINARY REVIEW*, was evidently intended as a mild rebuke to the "short cut" method of instruction as taught and practised in that veterinary college. However, there was no urgent necessity to offer it as an unpardonable insult to the other veterinary schools and colleges in the United States and Canada.

It must be distinctly understood that this article was not written for the purpose of inciting any personal discussion, but merely to expose some practices which are inimical to the interests and welfare of veterinary science.

Very respectfully,

JAMES A. WAUGH, V.S., (Ont.)

Regt. Vet. Surg. Sixth Cav., U.S.A.

VETERINARY MEDICAL LEGISLATION.

Editor American Veterinary Review:

I send you for publication a copy of the proposed bill to regulate veterinary medicine and surgery in the State of New York. It is, as you will see, far more liberal than that advocated

last year ; which unfortunately contained a clause that naturally antagonized the self-made men of the profession.

If there is any fault with the bill, it can only possibly be its liberality ; yet, that is so tempered with justice, that no fair minded person can raise his voice against it. And it is on this account that I feel constrained to say a few words to the regular members of the profession, through the REVIEW ; knowing as I do, that whatever opposition the bill will receive, will be from graduates of veterinary medicine practicing in the State of New York ; and I regret to say, that already I have been given to understand that there is at this early stage, that very opposition. Why is it, if not from some personal motive. Is it because perchance, it will give a standing to some non-graduate of the profession, whom we should be obliged to recognize ; but even if from that point objection is taken, it should not be forgotten that this recognition is simply professional and not necessarily social ; or if it should be with an idea to lessen the number of practitioners, defeating the bill will not have the effect ; so it would appear that whatever opposition is offered, will be purely from a selfish standpoint, and consequently from no veterinarian who has the welfare of his profession at heart. There is too much of the spirit of "the public be damned"—substituting the word profession for public. Among the veterinarians of the present day, there would seem to be just two ideas that enter the minds of those taking up the veterinary profession for a calling—diplomas, dollars—the first to swear by, the second to worship ; but I am glad to admit, as is the case in all rules, there are exceptions, but I think you will agree with me, when I say, they are few and far between, and that there appear to be an entire lack of ambition on the part of nine-tenths of the members of the profession. But I am diverting.

My object now is to try and get a unity of action on the question of legislation.

The veterinarians of the northern part of the State, (Rochester,) have had introduced into the Assembly a bill to regulate the practice of veterinary medicine ; so that there are now two bills before that body, for their consideration. I cannot see the

need of introducing two bills. Do the Rochester division think for one moment that New York City and its vicinity are trying to legislate for its own local good? if so, they were never so mistaken or did a greater injustice.

The New York State Veterinary Society simply wishes for legislation for the elevation and good of the profession, and for that alone. It is a body perfectly independent of any particular college or school, its members being composed of graduates of no less than six different schools. It has acted with the greatest liberality, making concessions right and left; and every veterinarian, be he member of that body or not, who will act in union with the society, on this one all-important question, will be working for the elevation of his profession, and consequently of himself, and not for any particular few or school. Every member of the profession, be he graduate or not, has more or less influence and can easily help in the good work, by seeing or writing their respective members of Assembly and Senate, if they approve the bill. If they do not, I trust they will be men enough to state their objections. I feel sure that by a united action, we shall be able to get the profession legalized, and if we should fail in reaching that grand point, by reason of fighting among ourselves, it will be an everlasting shame and disgrace. I will see that every member of the Senate and Assembly gets a copy of Dr. R. W. Finlay's able paper on veterinary medical legislation, and shall be pleased to put myself in communication with any member of the profession regarding this question,

Yours very truly, W. H. PENDRY, D.V.S.

VETERINARY LEGISLATION.

AN ACT TO REGULATE THE PRACTICE OF VETERINARY MEDICINE AND SURGERY
IN THE STATE OF NEW YORK.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION I.—No person shall practice veterinary medicine and surgery, or any branch thereof, in this State for compensation, or shall either directly or indirectly receive or accept for his services

as a practitioner of veterinary medicine or surgery any fee or reward, except he be duly registered, as hereinafter provided, in the book for that purpose in the office of the Clerk of the county in which he resides.

§ II.—No person shall be entitled to register as such practitioner unless he be a graduate of a legally chartered or incorporated college or university, or shall hold a certificate of qualification from a legally incorporated veterinary society, organized at least one year before the passage of this Act, and such certificate shall be issued at least one year previous to January 1, 1886, except as provided for in Section III of this Act.

§ III.—Any person who has been continuously practicing veterinary medicine and surgery in this State as a means of livelihood for a period of not less than five years immediately preceding the passage of this Act, without having obtained a diploma or certificate from a legally chartered or incorporated Veterinary College, University or Society, as provided for in Section II of this Act, must register within six months after the passage of this Act, upon making and filing with the Clerk of the county in which he resides an affidavit stating that he has been so continuously practicing veterinary medicine and surgery for the period hereinbefore prescribed.

§ IV.—The County Clerk of each county shall provide a book, to be known as the "Veterinary Medical Register," in which shall be recorded the name of the registrant, the name of the college or university granting his diploma, or of the society granting his certificate; or should the applicant not present such diploma or certificate, then the Clerk shall file the affidavit prescribed in Section III of this Act, after which such applicant must register in like manner as if he had presented a diploma or certificate from a veterinary college, university or society, and shall then be entitled to continue the practice of veterinary medicine and surgery. Every applicant who shall have complied with the foregoing provisions, and shall be admitted to registration, shall pay to the Clerk of said county the sum of two dollars, which shall be received as full compensation for such registration.

§ V.—Any person who shall present to the Clerk for the purpose of registration any diploma or certificate which has been fraudulently obtained, or shall practice veterinary medicine and surgery without conforming to the requirements of this Act, or shall otherwise violate or neglect to comply with any of the provisions of this Act, shall be guilty of a misdemeanor, and shall for each and every offence be punished by a fine of not less than fifty dollars, nor more than two hundred and fifty dollars, or by imprisonment in the county jail for a term of not less than ninety days, nor more than two years, or by both fine and imprisonment.

§ VI.—This Act shall take effect immediately.

AN ACT TO REGULATE THE PRACTICE OF VETERINARY MEDICINE AND SURGERY
IN THE STATE OF NEW YORK.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION I.—The Regents of the University of the State of New York shall appoint one or more Boards of Examiners in Veterinary Medicine and Surgery; each board to consist of five members, who shall have been duly authorized to practice the same in the State.

§ II.—Such examiners shall faithfully examine all candidates referred to them for that purpose by the Chancellor of said university, and furnish him with a detailed report in writing of all the questions and answers of such examinations, together with a separate written opinion of each examiner as to the requirements and merits of the candidate in each case.

§ III.—Such examinations shall be in anatomy, physiology, pathology, chemistry, materia medica, therapeutics, practice of medicine and surgery, and obstetrics.

§ IV.—The said report of examiners shall, with their answered opinion be forever a part of the public records of said university, and the order of the Chancellor addressed to the examiners, together with the action of the Regents in each case, shall accompany the same.

§ V.—Any person over twenty-one years of age, and paying thirty dollars into the treasury of the university, and on applying to the Chancellor for said examination, shall receive an order to that effect, addressed to one of the board of said examiners, provided that he shall adduce satisfactory proof to the Chancellor that he has a competent knowledge of the branches of learning taught in the common schools of this State. No person shall be eligible to an examination of the examiners appointed in pursuance with the foregoing provisions, for a doctorate degree in veterinary medicine who has not practiced at least seven years.

§ VI.—The Regents on receiving the aforesaid reports of the examiners, and on finding that not less than three members of a board have voted in favor of a candidate, shall issue to him a diploma, and in case an examination has been made with the view of conferring a doctorate degree and the applicant is found worthy, a diploma shall be issued to him conferring the degree of Doctor of Veterinary Medicine of the State of New York. Either of said diplomas shall be a license to practice veterinary medicine and surgery. The candidate on receiving either of said diplomas, shall pay the further sum of twenty dollars.

§ VII.—The Regents may establish such rules and regulations, from time to time, as they may deem necessary, and the moneys paid to the university as aforesaid shall be appropriated by them for the expenses of executing the foregoing provisions of this Act.

§ VIII.—It shall be unlawful for any person to practice veterinary medicine and surgery in this State, unless he is a resident and holds a diploma conferred by an incorporated veterinary school, college, or university, or of a certificate of qualification from some legally incorporated veterinary society, provided that nothing in this section shall be construed to apply to any person who is now and has been engaged in the actual and continued practice of veterinary medicine and surgery for at least seven years in this State. A person not a resident of the State, and coming into it after the passage of this Act, may be licensed to practice veterinary medicine and surgery in the following manner: If he has a diploma authorizing him to

practice veterinary medicine and surgery, conferred upon him by some legally incorporated veterinary body outside of the State, he shall exhibit the same to the aforesaid examining board, with satisfactory evidence of his good moral character, and such evidence of his qualification as said examining board may require. If his diploma and qualification are approved by them, then they shall endorse said diploma, which shall constitute it a license to practice in this State, the same as if issued by them. The applicant shall pay into the treasury of the university the sum of thirty dollars previous to receiving an order for said examination. The same shall be forfeited in case the applicant fails to obtain the endorsement of said board. Any person holding a diploma (conferred by an incorporated veterinary school, college, or university of the State, recognized as proper authority by the Chancellor of the university of the State,) through a non-resident, shall be permitted to come into the State, and make it his residence, and is authorized to practice the same as a resident practitioner at the time of the passage of this Act.

§ IX.—Every person now engaged in the practice of veterinary medicine and surgery, and qualified as required by section 8 of this Act, shall within sixty days after its passage register, and every person hereafter duly authorized to practice, shall before commencing, register in the Clerk's office of the county in which he intends to practice veterinary medicine and surgery, in a book to be kept by said Clerk, his name, age, residence and place of berth, together with his authority for so practicing. The person so registering shall subscribe and verify by oath or affirmation before a person duly authorized to administer the same under the laws of the State, an affidavit containing such facts. If diploma or certificate, the date of same and by whom granted. which, if willfully false in any particular, shall subject the applicant to the pain and penalties of perjury. The fee for registration to be paid by the person registering.

§ X.—Any person neglecting to comply with or violating the regulations of section 8 and 9 of this Act, shall be deemed guilty of misdemeanor, and upon conviction shall be fined not less than twenty-five or more than one hundred dollars, or imprisonment

for not less than twenty or more than sixty days for each offence. Any person shall be regarded as practicing veterinary medicine and surgery within the meaning of this Act, who publicly proposes to prescribe for, or treat, the ailments of domestic animals. But nothing in it shall be construed to prohibit students from prescribing under the supervision of preceptors, or to prohibit gratuitous services in cases of emergency, or to prohibit the services of an authorized practitioner of a neighboring State when incidentally called into requisition. Neither shall an unauthorized practitioner be liable to the penalties of this Act until after an examining board has been organized in pursuance of the same to examine applicants, of which proper notice shall have been given, provided that within sixty days after its passage he has applied to the Chancellor for an examination, and paid the sum required therefor into the treasury of the University, and is diligently seeking an opportunity for the same.

§ XI.—No certificate issued by any society after the passage of this Act shall be valid authority to practice veterinary medicine and surgery, or entitle the holder thereof to register for such purposes.

§ XII.—All Acts or parts of Acts inconsistent with the provisions of this Act, are hereby repealed.

§ XIII.—This Act shall take effect immediately.

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of the New York State Veterinary Society was held on Wednesday, January 13, at the Cooper Institute, New York, the President in the chair.

Members present were Drs. Bretherton, R. W. Finlay, L. McLean, Boyd, Cuff, Charum, R. A. Finlay, Denslow, W. H. Jackson, R. McLean, Newman, Pendry, Faust and R. Ogle.

Minutes of last meeting were read and on motion adopted.

Letters were read from Drs. C. C. and Jas. S. Cattanch, New York; O. C. Jackson, Jamacia; and Cohen, Amsterdam; stating they could not be present, and advocating the passage of the proposed bill as printed; also from J. Lindsay,

Huntington, L. I., and A. S. Cook, Binghamton, to the same effect, but favoring an examination clause in the bill for non-graduates.

The President stated that the question of legislation was the main point to be decided upon; not so much as to whether or not we should get a bill passed, but whether the one as printed, and sent to each member, should be adopted by the society. He should like to have an expression from those present.

Dr. R. A. Finlay remarked that, at the last meeting it was decided to send to each member a copy of the drafted bill, asking for an expression on the same, if they could not be present: what had been the result? He questioned whether there were sufficient members present to take the responsibility. He favored the question being dropped.

Dr. R. Ogle thought that by all means we should proceed with the consideration of the bill. Although there were only a few present, he considered that few well able to transact business. Drs. Bretherton and Boyd saw no reason why it could not be passed in its present form.

Dr. Faust was in favor of having an examination for non-graduates, who should not be allowed to practise if they could not pass a satisfactory one, and pay a fee for a certificate equal to that paid for a diploma.

Dr. L. McLean said while it was true that the members present were few yet they were there as a society, and they were a quorum. We could not but deplore the apathy of those members absent; we could not expect to have things all our own road; we see to-night men who have prominence making themselves conspicuous by their absence. He approved the bill; it was one that should pass, and would, he thought, meet the present requirements; it was certainly a very liberal bill, and irrespective of the cold shoulder given it by members, from whom we should have expected better things, he would advocate the few fighting for its passage.

Dr. Charum considered that the peculiar position of the profession obliged us to be very liberal, but in view of the want of interest shown, he would suggest that the bill be laid on the table.

Drs. Cuff, Jackson and Newman favored fighting for the bill as it now stood, so did Dr. Denslow, only he objected to the amount of punishment as laid down in the fifth section.

Dr. R. W. Finlay spoke of the attempt last year to get a bill passed, going considerably into the work done then; now, he said, another one had been adopted, one that was much more liberal, yet he questioned whether that could be passed without the aid of money; and again, the members of the society had each been sent a copy of the proposed bill, with a printed circular, asking them to be present, or send their views regarding the matter. What was the result? Out of over sixty members of the profession, we had fourteen present, and only six had thought it worth their while to answer the Secretary's letter. Forty would only have been a reasonable number to have expected to be present. It certainly indicated that many wished to have nothing to do with the bill; and he did not consider it fair to saddle the work of getting a bill passed on the few, for the whole to get the benefit, and so he had to withdraw all his favors for it.

Dr. L. McLean replied that the fourteen present evidently indicated that they wished to legislate; if we were to stop because there was only that number present, then we had better drop the society.

Dr. R. A. Finlay questioned whether those few were willing to father the expense.

Dr. Pendry said section two of article five provided for that, inasmuch as it gave the power to assess such expenses as had been incurred by the society.

Dr. R. Ogle was sure no money would have to be spent to have the bill passed. He had already been promised the support of members of the Legislature.

Dr. Pendry being called upon to express his views on the subject, said that he considered some of the members had got hold of a wrong idea, in considering that money was necessary to pass such a bill as the one proposed. Dr. Finlay had stated, that when at Albany, in the interest of the last bill, he had been asked what was behind it, or in other words, was there any money in it. He was not surprised to hear that such a question had been put, although no such question had been asked him when he visited Albany, as Secretary of the society, in the interest of their then proposed bill. It was true the bill did not pass; but why? because his pleading to have the examining clause struck out, was ineffective. A bill with such a clause inserted, demanding that a fee equal to that paid for a diploma, bore upon its face—however unintentional it might have been—a money making job for some three members of the profession, who would have formed the Examining Board. A Western paper even went so far as to place the amount of such fees at ten thousand dollars; this he considered was the reason of the question of money being raised. He had the pledge of more than one member of the Assembly, and one had offered to father the bill. The present bill was so liberal, was so void of any individual benefit, that there could not possibly be any opposition. It was not because money had not been put up, that the last bill was killed, but simply because a country non-graduate had so strongly and easily shown the committee before which the bill was, that it possibly placed it within the means of three men to take the bread out of his mouth, so the opposition was strong and forcible. We should not advocate the bill as individuals, but as a body of professional men advocating a cause for the good of their profession. Veterinarians would not receive any individual benefit, but would succeed in raising their profession to the high position where it justly belongs, and not let it any longer lay in the unlegalized gutter-like position that it now occupies. That we should not go ahead because there were so few present, was he thought a poor argument. Were we going to let those who did not consider it worth their while to come, see that we could not get along without them. Such an idea he considered childish; it was simply the old, old story over again, that the few had always to do the work, and the many receive the benefit. It had always been so, and would always remain so, and he for one was willing to yet remain one of those few.

Several members spoke of members of the Legislature who had promised the bill their support.

The President said there could not be any opposition to the bill. He was in favor of it. The bill was a very liberal one, yet not more so than the one passed by practitioners of human medicine. The country practitioner could not be antagonized; he was doing his best, and could control more votes than a city practitioner. He had had no opportunity to educate himself. This bill was lifting such men from the gutter. He did not think the bill would be defeated.

There could be only one class who would help to defeat such a bill, and it would be those who made money by teaching.

Dr. R. W. Finlay admitted that the bill was very simple and honest, but what struck him was the small representation of the profession. The very men who created the bill had withdrawn their support by their absence. He however did not think it would cost less than five hundred or a thousand dollars to pass it.

After some further discussion, it was moved by Dr. Pendry, seconded by Dr. R. Ogle, that the bill, as drawn up and printed, be approved by this Society, and that the same be placed in the hands of a committee, with instructions to have the same presented at Albany. The motion was carried, and Drs. Pendry, R. Ogle and Faust were named as a committee to look after the bill.

Dr. R. W. Finlay said it would be as well to interest each member to exert himself with those members of the Legislature that he could reach, and use whatever influence they could. The suggestion was acted on by the Chair.

Dr. Pendry thought that Dr. Finlay's able paper on Veterinary Medical Legislation should be printed, so that a copy could be sent to each member of the Legislature. The idea was approved, and Dr. R. W. Finlay moved that the Committee on Bill be given power to aid the passage of the bill in whatever way they may deem best, and to incur any reasonable expense, which was seconded and carried.

Dr. L. McLean, delegate to the Cattle Growers' Convention at Chicago, reported verbally, that he had attended the convention as a delegate from the Society, and was admitted on the credentials supplied by the Secretary. There were matters discussed from a professional standpoint, and those who were largely interested in cattle took a lively interest in the proceedings of the veterinarians, among whom there was a perfect union as to the matter of contagious diseases. He thought other meetings would be held, and much good would no doubt follow. On motion, the report was received, and a vote of thanks tendered for the same.

Dr. Pendry moved that the Society give their annual prize of a gold medal for the best practical examination passed by a veterinary student graduating this spring, and that the Examining Committee be named by the Chair. Dr. R. W. Finlay seconded the motion, which was carried.

A bill was read from Dr. L. McLean of \$74.00, being his expenses to the Chicago Convention. After some remarks as to Dr. McLean's former objection to the expenses of a delegate being paid, it was ordered received.

The Secretary reported that Drs. Allen, J. Leighton, M. Bunker, W. H. Arrowsmith, W. Critcherson, W. McCaldon, T. Outerbridge, T. Finnegan, F. J. Hanshew, F. Saunders, R. Simmons, J. H. McMartin and G. Nostrand had been struck from the roll for non-payment of initiation fees and dues.

Dr. Pendry gave notice of alteration of By-Laws, as follows:

That Section 2 of Article I be made to read, "Annual December meeting," instead of "March meeting."

That there be added to Section 1 of Article IV, "And be a resident of the State at the time of his election to membership."

To follow Section 2 of same Article: "Section 3, The Secretary shall not enter the name of any newly elected member on the roll book until the Treas-

urer's receipt for the initiation fee and the current year's dues has been obtained."

That the words "one dollar," in Section 1 of Article V, be stricken out, and in its place the words, "two dollars" be inserted.

After Dr. Lamb, of Poughkeepsie, had been appointed essayist for the next meeting, a vote to adjourn was carried.

W. H. PENDRY, D.V.S., *Secretary*.

NEWS AND SUNDRIES.

VIVISECTION NOT ALLOWED.—Mr. John Jay Knox, President of the Anti-Vivisection Society, New York, sends the following letter to the press for publication: "I desire to call your attention, and the attention of all human brutes of the Pasteur school, who propose torturing rabbits by the thousand, to the anti-vivisection laws of this State and New Jersey. Dr. Billings proposes to kill 5,000 rabbits by slow fever. If he kills even one in this State or New Jersey, he will be prosecuted and punished to the full extent of the law by this society."

CONTAGIOUS PLEURO-PNEUMONIA.—The January number of the *National Live Stock Journal* gives an account of the slaughter of a dairy herd, near Gravesend, England, that were infected with pleuro-pneumonia. They were killed at the instance of the local authority of Kent. Thirty cattle apparently healthy, were slaughtered to "clear out" the dairy; about as many more having been slaughtered—one, two or more at a time—at irregular intervals, but only such animals as were visibly suffering from the disease. Out of the thirty animals that appeared in sound health, but which had been in contact with former diseased animals of the herd, twelve showed on post mortem examination, characteristic signs of pleuro-pneumonia, from incipient to more advanced stages of the disease. All these cattle were capable of propagating infection. They would inevitably very soon have showed marked symptoms of the disease.

The weekly edition of the same journal, January 5, 1886, in commenting on the above facts, adds: "that this case affords

very strong argument in favor of the immediate slaughter of all the animals in an infected herd that have been exposed, as well as of those visibly affected. It is evidence of the usual results of half measures, resulting merely in postponing the inevitable, after a useless and costly delay, which could have been avoided. This case also furnishes abundant proof of that which has been so often contended, and in this country confidently denied, namely, that animals may be infected with this disease and liable to communicate it to others, and yet show no outward signs of being affected by it, and even eventually recover from it themselves. The discovery by post-mortem of twelve diseased animals out of thirty apparently unaffected, should afford convincing proof to the most skeptical of this dangerous feature of contagious pleuro-pneumonia."

PRIORITY IN INOCULATIONS AGAINST RABIES.—The last thing thought of would be that a claim of priority would be put in against Pasteur's preventive inoculations against hydrophobia. We learn, however, from *Le Progres Medical*, that in a medical journal called *Klinische Anweisungen*, appearing in Leipsic in 1849, under the title of "Rabies and Poisoning," an article is published discussing a method of preventing rabies by vaccination. The doctor employing this measure called himself Constantine Hering, and lived in Philadelphia.—*Medical Record*.

ENDURANCE OF ARAB HORSES.—The oft-quoted endurance of Arab horses has received recent confirmation of the strongest kind. The officer commanding the Nineteenth Hussars, in the unfortunate campaign for the relief of Khartoum, has published some interesting memoranda in regard to these animals, which were the mounts of his regiment during that expedition. These were Arab stallions, about eight or nine years of age. Out of 350 horses, only 12 died of disease during a hard campaign of nine months. For four months of the time the weather was very trying, food was limited, and during the desert march water was very scarce. On the final march made by the troops, 155 of these horses were fifty-five hours without a drop of water and

only one pound of grain. Some of them had no water for seventy hours ; yet, at the end of the campaign, after a week's rest, says their eulogist, the animals were handed over to another regiment in as good order as they had been when first secured, nine months before.—*National Live Stock Journal*.

EXCHANGES, ETC., RECEIVED.

Besides our usual exchanges at home and from abroad, and a large number of newspapers received, we beg to announce the following :

CORRESPONDENCE RECEIVED.—J. C. Myers, Sr., V.S.; J. Scheibler, D.V.S.; D. Dixon, D.V.S.; J. A. Waugh, V.S.; W. H. Pendry, D.V.S.; J. D. Hopkins, D.V.S.; E. R. Forbes, M.R.C.V.S.; M. J. Tracy, M.R.C.V.S.; A. Tuttle, D.V.S.; L. Mercier; A. Roux, V.M.; W. Bryden, V.S., A. Peters, D.V.S.; J. P. Wilson, D.V.S.; C. C. McLean, V.S.; G. S. Agersborg, D.V.S.; J. Gerth, Jr., D.V.S.; W. C. Fair, V.S.; W. L. Zuill, D.V.S.

The Journal of Comparative Medicine and Surgery.

This well-known quarterly now enters upon the seventh year of its existence. It is especially devoted to Comparative Medicine, and is of as much interest to veterinarians as to physicians. The January number will contain the following original articles:

The Comparative Anatomy of the Pyramidal Tract, by E. C. Spitzka, M.D.

History of Tuberculosis, by F. S. Billings, V.S.

An Exhaustive Treatise on Milk, by Thos. Balfe Rogers, D.V.S., Veterinary Inspector of New Jersey.

An Article on Azoturia, by Richard W. Burke, M.R.C.V.S., Army Veterinary Department, India.

Also a Biographical Notice, with portrait, of George Fleming, M.R.C.V.S.

The April number will contain an original article on "Differential Diagnosis in Glanders" (published for the first time), by Prof. Schultz; translations of articles by Professors Growitz and Dieckerhoff on "A New Acute Disease in the Horse," and by Professor Degive on "Pleuro-Pneumonia; also an article on "Osteo Porosis," by H. F. James, V.S.

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In connection with the Medical Faculty of McGill University.

SESSION 1884-'85.

Introductory Lecture by Prof. WM. OSLER, M.D., M.R.C.P.L.,
on Tuesday, October 3d, at 8 P.M.

Prospectus giving full particulars of the course, requirements,
fees, etc., sent free on application to the Principal,

D. McEACHRAN, F.R.C.V.S.,

No. 6 Union Avenue, Montreal.

HARVARD UNIVERSITY.

School of Veterinary Medicine.

Session 1885,—86.

Examinations for admission to this class will be held on June 22d and September 28th in Boston, and on June 25th in Exeter, Andover, New York, Philadelphia, Cincinnati, Chicago, St. Louis and San Francisco.

For Catalogue, and all further information, address

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50 Village Street, BOSTON, MASS.

AMERICAN VETERINARY REVIEW,

MARCH, 1886.

EDITORIAL.

ARMY VETERINARIANS.

We are becoming more or less anxious to know, if possible, about how much longer the members of the veterinary corps attached to the military service of the United States are to be kept in the equivocal if not degrading position to which they seem to have been condemned by the authorities at Washington—how long the Secretary of War and his subaltern the Lieutenant General will choose to continue blind to the importance of the duties and the value of the services pertaining to the competent veterinarian in the army of the country—in a word, when gentlemen of our profession who have accepted official station from the Government may expect to enjoy the consideration which an intelligent sense of justice would indicate as properly their due.

It seems quite out of reason to attempt to explain the difference in the treatment and estimation accorded to members of the same profession by the Governments of Europe, and that of our own country, except by the fact that while the former have become enlightened on the subject by long observation and ample experience, the latter has not even attempted, as yet, to comprehend the situation, and to adapt its measures to the facts of the case.

The fact cannot be ignored that the function of the accomplished veterinarian in the army is one of the very first and high-

est importance to the welfare and efficiency of the force—absolutely indispensable, indeed, to the availability of the cavalry and artillery branches, whether in active field service or reposing idly in the camp. We are aware that such a claim is likely to be met with an incredulous sneer by the pretentious army officer who has arrived at the conclusion that the essence of military efficiency and respectability is exclusively compounded of gilt buttons and shoulder-straps organized into an aristocratic mess; but the intelligent soldier who undertakes to eliminate the artillery and cavalry horse from his working efficiencies, will not be slow to discover that a body whose limbs have suffered amputation will find itself in poor case to contend with an enemy endowed with its proper complement of organs of locomotion, and whom he can no more escape, if vanquished, than he can pursue if victorious.

Whatever may be the reasons which have influenced the denial of the claims of the army veterinarians for adequate recognition in respect to rank and pay, we are, however, not informed. If any have been given, we are not aware of the fact, but we understand that another application is in contemplation, based on the ground of economic change. Whether this is foredoomed to a successful issue, we, of course, cannot say, and our hope of any very satisfying result is but small. Our impression is strong that no adequate concession need be looked for, except as the result of a process of compulsion. The veterinarians now in the army are no doubt holding their positions at a pecuniary sacrifice, not one among them probably realizing a money compensation for his services which would not be exceeded by the emoluments of his private practice. And it is, perhaps, only the mere truth to affirm that the reason why more new applicants are not presenting themselves for commission is that their present income is more satisfactory and ample than the best terms likely to be realized from the official position. The method of self-vindication we would suggest to our brethren may be easily guessed out from these suggestive hints. The whip-hand is with the army veterinarians, and we believe that the only chance for improvement in their position lies in their throwing the onus of reform upon army headquarters. Leave the army without reputable veterinarians

until suitable rank and pay are attached to their appointment, and the end will not be distant. The resignation (in their own pecuniary interests) of those now holding official place, and the withdrawal or withholding of applications now made or contemplated, will "strike" a blow at the snobbery which undoubtedly inspires the disgust of the epauletted gentlemen whose gorges rise at the thought of messing with "horse doctors," which will effectually settle the whole question. The army will hardly be suffered to retrograde to the period when every blacksmith was a farrier, and the fleam, the firing-iron and an aloëtic ball constituted the whole *materia medica*. The need of reputable and responsible veterinarians will, in due time, necessitate their employment. Their value having been tested and proved, the government call will be heard, and the inducements to secure a favorable response will be forthcoming with the tender of appointment.

Civil veterinarians were ignored as to the value of their acquirements until their researches into the philosophy of contagion, and their services in the protection of both man and brute from the ravages of fatal epidemics conquered and compelled the consideration of the public, and their reward has come to them in the appreciation they have so laboriously earned and now securely hold.

The lesson must not be "lost" to the army veterinarian. The army needs him more than he needs the army, and his self-assertion in abandoning a position he cannot hold without a sacrifice of his manly dignity and professional and scientific status will involve no risk of damage of any description which he may not complacently contemplate and safely encounter. Justice at the hands of the government will be sure to meet his demand when thus boldly urged, and his final reward will be found in his permanent retention of the well-earned standing in the ranks of scientists and savants already accorded to him, and finally his reception as the social equal of even the graduates of West Point—which, being once conquered, leaves nothing more worth the contention necessary to acquire it.

As this is not our first reference to this subject, it is not likely

to be our last. The matter at issue is not one which will be likely to be very promptly settled, and the stress which must be felt in Washington before a final adjustment is reached must not be relaxed. Nor shall it be, so far as our efforts may be continued, until the right is established.

HENRY BOULEY.

We reprint below a translation of a communication forwarded to us by a European correspondent, calling the attention of veterinarians throughout the world to a proposition suggested by the Veterinary Society of Gironde, and endorsed by the Société Centrale de Médecine Vétérinaire de Paris, to unite in a testimonial of respect to the memory of one of the world's benefactors.

It is a call addressed not alone to all the veterinarians of France, and of the world, but to all medical societies and learned associations as well, to raise a fund for the erection of a monument to be consecrated to the memory of the eminent man whose recent death has moved all veterinarians to sincere mourning.

There is little need for our saying much in favor of the propriety of this measure, more than that we shall be glad to receive and acknowledge the receipt of any amount that may be placed in our hands to be remitted to the committee in charge in Paris.

The following is the appeal:

CENTRAL SOCIETY OF VETERINARY MEDICINE.

Public subscription for the erection of a monument to the memory of Henry Bouley.

PARIS, January 10, 1886.

Sir:—Upon learning of the death of Mr. H. Bouley, the Veterinary Society of Gironde have deemed it to be becoming in them to be first among their professional fellows in promulgating the suggestion that a monument be raised to his memory, through the initiative of the Central Society, as an expression of the gratitude and respectful veneration which all veterinarians

throughout France would be happy to manifest towards the great master, who, during his life, so nobly honored the veterinary profession.

This suggestion was favorably considered by the Central Society at their first subsequent meeting, and a motion having been unanimously passed for the appointment of a committee to carry the proposition into effect, the following resolutions were reported and adopted :

First.—That a monument shall be raised to the memory of Mr. Bouley.

Second.—That this monument shall be placed in the School of Alfort, where most of his scientific and professional life was spent.

Third.—That a call for subscriptions shall be made to the veterinarians of France and *of the world*; to the medical fraternities; to all the learned societies to which Mr. Bouley belonged; to all friends of science, and to all the numerous private friends of the lamented scientist, in co-operation with the subscription already initiated by the Society of Gironde.

A subscription list, in accordance with this object, has been opened at Messrs. Asselin & Houzeau's, which will remain open for a period of three months.

Signed by

A. GOUBAUX, Director of the Alfort School;
C. CAGNY, C. LIBLANC, E. MATHIEU, CH.
PREVOST, A. SANSON, SIGNOL, WEBER, of
the Central Society; DR. MEURIOT and
LEON HOUZEAU,

Executive Committee.

VETERINARY LEGISLATION.

As we stated in our last number, two bills for the regulation of veterinary practice in the State of New York have found their way on the files, and are now waiting their turn for the consideration of the Legislature in Albany. They were referred to the Committee on Public Health, and we understand have been discussed in that committee by the parties interested. We are not informed as to what has become of the bill offered by the Rochester Veterinary Medical Association. That which was presented

by the New York State Veterinary Society, as amended, was favorably reported by the committee, and referred to the Committee of the Whole. The new bill, with the amendment, will be found in our pages, but what will become of it we cannot say. A communication received from Dr. Kidney, which we also print, reveals a great deal as to the feeling of the members of the profession upon the policy of the bill, and we hope that all those who approve of the measure will make their influence felt in the passage of an act which will compass the most important point which the veterinary profession of this State can secure, in bringing all the practitioners of the State together upon an equal footing, and inviting them all into one large, general, homogeneous body.

TREATMENT OF SPRINGHALT BY SHOEING.

An extract from one of our exchanges on the subject of springhalt and its cure, which appeared in the January number of the *REVIEW*, has elicited the notice of Dr. Bryden, in a letter, which we print on another page, and which furnishes its own explanation.

We had promised the Doctor further information on the subject of this treatment, which appeared in a recent communication made before the Société Centrale de Médecine Veterinaire, but unforeseen circumstances have prevented us from doing him justice at the present time. In our April number, however, we expect to pay our indebtedness, and shall present all the facts before our readers. It is well-known by many amongst us that Dr. Bryden has paid much attention to this special subject, and we are strongly of the opinion that his claim to priority in this new treatment is a just one.

NEW JERSEY VETERINARY MEDICAL ASSOCIATION.

The act of incorporation, constitution and by-laws of this scientific body have been published in a neat pamphlet, which forms a handsome and convenient summary of the rules and regulations of the association. President W. B. E. Miller and Secretary W. H. Lowe will please accept our compliments for the success that has crowned their term of office.

ORIGINAL ARTICLES.

DISEASES OF THE HEART IN DOMESTIC ANIMALS,
ESPECIALLY THE HORSE.

BY FR. BLAZEKOVIC.

*(Translated by J. C. Meyer, Sr., V.S.)**Continued from page 456.*

ANOMALIES OF THE VALVES AND OSTIUM.

All alterations on the valves, as relaxation and laceration of the tissue, shriveling, growing together of the points, new formation of the cellular tissue, formation of callosities, are mostly the products of preceding inflammation, which is known as endocarditis, including the lining of the valves. In such cases the valves are generally insufficient, whereby the returning blood is admitted into such cavities, which, under normal circumstances, are shut off. If, on the other hand, the ostium of the cavity of the heart be contracted in such a manner that obstructions prevent the influx of blood, such a condition is termed stenosis. The valves are larger or smaller, hypertrophied or atrophied; the enlargement is almost constant, with the expansion of the ostium. In a less degree of insufficiency, the bicuspid and tricuspid valves become thickened, due to the new formation of the cellular tissue, also shortened, cartilaginous, frayed at some places, and often grown together and distorted. The outer surface is sometimes studded with protuberances and warts, sometimes with calcareous, cretaceous, and ossified small knots. Such changes give rise to insufficiency of the bicuspid and tricuspid valves, then to the semilunar and aortic valves, less frequently to that of the pulmonary artery. By reason of defective function this alteration also produces stenosis of the cavities of the heart and changes on the valves.

By a contraction of the ventricle a portion of the blood contained therein, which ought to flow into the arteries entirely, is forced backward into the auricle which is already filled with blood. In consequence of the difficult flow of blood out of the auricle, the blood of the discharging veins naturally becomes stagnated. But

when the insufficiency affects the bicuspid valves, or if stenosis be present in the ostium venosum, a stagnation of blood and its evil consequences occurs in the lungs, and consecutive diseases, as chronic hyperæmic, chronic bronchial catarrh of the lungs, etc., are found.

We meet with secondary expansion and hypertrophy of the aorta and their issues, due to the insufficiency of the semilunar valves.

Secondary and concomitant symptoms are very frequent in diseases of the heart, and in chronic diseases of the heart nearly always present. These consecutive diseases of liver, lung, kidney, spleen, etc., occupy no unimportant place, since they, in many cases, form the cessative moments of impeding circulation. However, in most cases they are brought about by disturbances in the circulation and stagnation of blood respiration in consequence of imperfect regulation of the circulation on the part of the heart.

The changes which take place in these organs are very numerous, as hyperæmic, congestion, exudation, malformation, fatty degeneration, suppuration, ulceration, hypertrophy, atrophy, bursting due to too great pressure and stagnation of the blood, etc. However, they have been repeatedly described in books of instruction and in periodical literature, and I consider it superfluous to mention them further, since they do not represent the essential part of the subject, but are always secondary phenomena. As mentioned before, these consecutives are in general not to be regarded as the cause, but as the effect of abnormalities of the heart, particularly of the chronic.

DIAGNOSIS AND SYMPTOMS OF DISEASES OF THE HEART.

No affection is so difficult to diagnose as that of diseases of the heart. Only a few expedients are at the disposal of the veterinarian to find out the condition of the affected heart. Still, by utilizing these, though meagre auxiliary means, and by close examination of the often very trivial symptoms, finally—what is most important—by thorough knowledge of the normal functions of the heart, it is possible to declare with certainty the presence of an affection of the heart.

The first and most important auxiliary is the pulse beat and

cardiac sounds. Every deviation from the normal in beat and sound is the surest indication of an abnormality, be it in the structure or be it in the mechanism of the heart. The difference in sound and beat, which in some affections appear more, in others less characterized, determine the nature of the existing affection with certainty or with greater or less probability.

The normal heart-beat is felt behind the left ulna between the fifth and seventh ribs, in the depth, however, very indistinctly. The number of heart-beats varies, according to the kind, size and age of the animal, and is certainly familiar to every practitioner.

By placing the ear to the chest in the vicinity of the heart two sounds can be heard which are determined by the action of the heart and are designated cardiac sounds. By practice we can learn to distinguish perfectly the systolic and diastolic sounds in sound horses only. In sound animals both sounds are full, clear, rythmical, corresponding to the out and in-pouring of the blood in the cavity of the heart, without hindrance, in definite intervals. Cardiac sounds are, therefore, always regular and measured by intervals. They become familiar by practice. Thus auscultation is one of the most important diagnostical auxiliaries in diseases of the heart.

Percussion is as important as auscultation. By percussing we are able to ascertain the size and position of the heart in the chest and its condition to the normal, and therefrom draw further conclusions.

The frequency and constitution of the pulse will give us information of the disorder of the mechanism of the heart, and tell us whether the condition be inflammatory, acute, or chronic. The natural condition of the respiration is less reliable, for often acute inflammatory diseases of the heart develop and terminate without the respiration having changed at the beginning of the disease. In chronic affections dyspnœ is often constant.

Therefore, as a rule, the following holds good: As soon as the respiration is striking and dyspnœ is obvious, no affection of the lungs or pleura being traceable, and no acute inflammatory disease present, then a suspicion of existing diseases of the heart is justified.

The indications of the thermometer will show whether the affection be of an inflammatory nature or not. Additional indications and symptoms, as anxiety, vertigo, weakness, etc., will receive special mention in another place. Such symptoms which accompany and characterize special affections of the heart will now be discussed.

Acute inflammatory diseases of the heart, pericarditis, myocarditis, inflammation of the valves appear, at the outset, with the symptoms appertaining to the inflammation. A minute examination will inform us of the nature and character of the disease.

The chronic and organic innate affections of the heart are still more difficult to determine, but there are certain characteristic symptoms, as deviation in pulse, heart-beat and heart sounds, dyspnoea, emphysema in horses, increased action of the heart, even after a slight exertion, frequent apoplectic attacks, vertigo, repeated staggering and momentary feebleness, which, however, soon disappears, sudden collapse during the performance of work, for instance, when a horse is hard ridden, is also observed. Additional indications are: cyanotic redness and injection of the visible mucous membrane on the eyelids and the vagina, spontaneous hemorrhage from the nose, rectum, and vagina, frequent expansion of the visible capillary vessels, especially the veins. Palpitation of the jugular vein is sometimes found united with plethora in intense defects of the heart.

The perceptible symptoms of the affections of the heart are herewith given in general, and now we shall consider the special symptoms of the disease, which at the same time offer fulcrums for the progress, issue and prognosis.

We are justified in considering as the mildest form of diseases such, as are based neither upon organic defects nor pathological changes, or inflammatory actions, but result from a momentary affection and irritation of the motor nerves of the heart. Their influence upon the action of the heart I will describe later.

I.—NEURALGIA OF THE HEART.

Neuralgic affections of the heart are seldom the object of observation in veterinary practice, for subjective fulcrums are wanting, because the animal is unable to give utterance to the

sensible pains. That, however, such cases of momentary attacks of the heart actually occur is scarcely to be doubted. As they generally pass away without any injurious consequences, they are often overlooked; but when they are intense and protracted they may be mistaken for dyspnœ.

II.—SYNCOPE.

Momentary faintness is often observed, especially in the horse. The animal falls down and remains motionless for a few seconds. In midsummer such attacks also occur quite frequently in the pasture. Sometimes the prostration lasts a considerable time, from 3 to 10 minutes. Gradually the animal recovers, the pulse is very weak, scarcely perceptible, the heart-beat slow, indistinct, we might say fatigued; the sounds and murmurs, with the exception of the blood-flowing of the blood, show no other perceptible abnormalities. The whole mechanism of the heart can be compared to a steam engine which works with full power and by a sudden closure of the throttle-valve becomes inactive. The cause of such conditions is a morbid irritability of the inhibitory nerves. This condition, and one similar, can be artificially generated by those narcotics and opiates which affect the inhibitory nerves partly directly, partly by reflection or by paralysis of the vaso-motor and excito nerves.

III.—PALPITATION OF THE HEART.

An abnormal excitement of those nerve-elements which regulate the rythmical action, appears more frequently and is of more importance than the above described condition, and a relaxation of the inhibitory nerves is present at the same time. The action of the heart is increased, often violent, thus producing a condition which is designated palpitation of the heart. Therefore palpitation of the heart is an increased irritability of the heart which arises either from a simple functional or organic abnormality. In the first case the normal state of the heart is easily established during the intervals, whereby we are convinced that the affection is purely functional, but the existence of organic changes is in this case to be regarded as the exciting cause of the functional affection.

As a rule the animal is dejected, appetite diminished or entirely wanting, pulse numbers from 70 to 80 beats, seldom more. If the disorder be purely functional the pulse is harder than normal; if, however, it be the result of organic derangement, the pulse will be intermittent and irregular. The heart-beat is throbbing, isochronic, often transmitting the shock to the whole body; the palpitation is sometimes heard at some distance. The heart-beat is often leaping, rebounding, generally like the stroke of a hammer within the thorax. The breathing is occasionally, though seldom, normal, and may accelerate even the dyspnœa. As a rule, the respiration rises to 30 per minute. Percussion is not to be depended; upon upon auscultation bellows murmurs are heard. In continued affection dullness and tympanitic sound with bellows murmurs in the lungs sometimes appears. If the disease lasts longer, the animal becomes weak, languid and unsteady. This condition can be confined to three or four hours, but it may continue the same number of days.

In purely functional effects the prognosis is favorable; if organic changes be the cause of the disorder, the prognosis depends upon the nature of the change.

(To be continued.)

INFLUENZA IN A NEW ATTIRE.

Paper read before the Ohio State Veterinary Medical Association,

by DR. J. C. MEYER, SR., V.S.

The various phenomena in which influenza manifests itself from time to time, and the question whether such a disorder as "epizootic cellulitis" really exists, induce me to give an account of an enzootic pathological process which resembles this complaint.

On June 7th, 1885, I was called to see a bay mare suffering with cramp of the diaphragm. The superintendent of the stock (about 40 in number) drew my attention at the same time to several horses which had slightly swollen feet, and refused to eat

their oats; others, without any swelling or other abnormal symptoms, merely rejected their oats since two or three days. The tumefactions proved to be warm, painful to the touch, and upon pressure imprints were more or less visible. In a few of them the thermometer indicated 100° to 102° . Recommended hypsulphate of soda mixed with mash or drink-water, to be given to each of those showing any signs of indisposition.

The next day (June 8th) two of these patients required particular attention. A roan horse, very fat (as they all were), refused all kind of nourishment. Respiration 16, pulse 60, temperature 104° ; a trifle tympanitic; inclined to lie down; swelling of limbs, extending somewhat above the hock and knee-joints; peristaltic tardy, intestinal evacuation less, tough and in small balls. The administration of an aperient changed his condition for the better in 24 hours.

The other, a black horse, was so stiff that he had to be forced to move. The swellings on the hind extremities reached nearly to the femoro tibial articulation. Respiration 24, pulse 76, temperature 106° ; no appetite. He received a dose of an antipyretic mixture, and a rectal injection of cold water, every three hours. In the evening I found him slightly improved. He took some bran mash, and appeared more cheerful than in the morning, but the superintendent informed me that in the afternoon he was in great distress, indicated by lying down, sweating profusely, moaning, breathing rapidly, for two hours, followed by several copious soft stools, whereupon relief ensued. Closer examination showed that the temperature fell two degrees, circulation but little altered, and respiration 30; stiffness diminished; tumefaction unchanged.

On June 9th both these horses gave evidence of improvement; the black made a speedier recovery than the roan. But the superintendent on this morning counted twenty more which were more or less afflicted with tender swollen legs. Two had ophthalmia of the original type of influenza of 1881. None of these, however, showed sufficient morbid symptoms as to demand therapeutical interference—at least all were able to perform more or less work.

In a livery and boarding stable another lot of horses (ten out

of thirty) complained in the same way, the symptoms being imperfect appetite, lassitude, at the same time painful swellings (of the same character as those mentioned above) appearing in the lower part of the extremities, particularly the posterior. They all recovered in about a week or ten days.

Now it is quite obvious that the therapeutical value of this short report would hardly justify my occupying your time, since the course of this disorder, with few exceptions, proved to be a mild one. But the uniform attack of so many occupants in one stable was something new to me, having met it only in sporadic, but not in enzootic form.

The influenza of 1881 is in some respects analogous to my cases; in fact, I take it to be the same, only of a mitigated character, stripped mostly of the ophthalmic and enteritic complications.

Nearly all the animals affected in 1881 with influenza, popularly called "pink-eye," had more or less swollen limbs. In the majority these swellings were of a pseudo-erysipelatous character, and a small percentage of an œdematous type. As I intimated before, the disease I met with may be genuine cellulitis.

The title Dr. Meyer, Jr., chose for his subject, "Epizootic Cellulitis" (in the fifth volume of the REVIEW), might have been improved; still, his nomenclature conveyed a better idea to the average reader, as to the kind of influenza he was to be informed of, than by using the universal term. Since making my observations last June, I am obliged to differ with Dr. Holcombe, who, in an answer to Meyer's article, attributes the tumefied extremities merely to a debilitated condition of the circulating organs.

Regarding the cause I am obliged to keep silent, it being a mystery, and will remain so for some time to come. Still, some points are worth mentioning, namely: Both the stables in question are new brick buildings. The one might be called a model structure—the basement occupied by wagons, the first and second floors by horses; well ventilated and kept as clean as a human dwelling. The other, equally as well kept and ventilated, has its apartments where the horses are kept on a level with the street. These stables are located about a half-square apart, close to the

Miami canal. Probably the canal atmosphere was instrumental in modifying the severity of the cause in this disease.

In other parts of the city numerous cases of the original character have turned up, without much loss, except in the sale stables, where the death rate was quite out of proportion.

REPORTS OF CASES.

REMOVAL OF TUMORS—RENAL FISTULA—NECROPSY—REMARKS.

By C. C. McLEAN, V. S., of Meadville, Pa.

June 17th, 1885, I was requested by a farmer to examine a grey gelding that he had traded for the previous week. I found a dark iron grey gelding, four years old, in good condition physically, except that he had a discharge of creamy pus from an opening about three-quarters of an inch in diameter from the left groin. His owner was unable to give me any information in regard to the animal's previous history from the fact of his having been owned by a class of dealing horsemen. He was a capital horse for that class of men; they would wash off the discharge and trade him to some unsuspecting customer who on entering his stable the following morning would be surprised to find the new tenant's leg smeared with the pus on the inner side from groin to hock. There was nothing peculiar about his manner of progression, except that he stepped a little shorter with the limb on left side, and no abnormal external appearance but slight atrophy of gluteals that would escape the attention of the casual observer. This was the first opportunity I had of seeing this horse, but from that time I was asked for opinion as to chance of recovery and expense of treatment, etc., by seven or eight different men, but none would consent to an operation till one E. Knorr got possession of the unfortunate victim. Mr. Knorr was the first man that gave me a chance to make a thorough examination, at which time I found, after casting him and examining per rectum, using a catheter as a probe, that there was a sinus extending from behind the left kidney to the external opening in the groin, and that there was a large growth under the transverse process of

lumbar vertebræ on the left side which, from the rectal examination, appeared to follow the course of the spermatic cord. My first impression was that I had to deal with an internal champignon. I could insert nearly entire length of a catheter in sinus. There was some difficulty in getting catheter past beginning of growth, but could accomplish it with the other hand in rectum. I advised Mr. Knorr of the risk of operation, etc., but insisted as much as I deemed proper on having the operation performed ; but he became frightened when he discovered the depth of the fistula, and I have since learned he had several of the bugbears of our profession injecting various solutions before and after I examined him. The next opportunity I had of seeing this horse he was the property of one Mr. Hotchkiss, who consented to an operation. Accordingly the horse was prepared for operation by proper diet for several days. Chloral hydrate was given and horse cast. I made an incision in scrotum where incision for castration had been made, and broke down adhesions around end of cord, and followed its course to the internal inguinal ring. I found no inflammatory action about this portion of the cord. I next followed the procedure I pursue in castrating the cryptorchid, as I think there is less danger of hernia, and that is to break into peritoneal cavity superior to the inner abdominal ring (inferior when horse on his back.) I now found the growth that I had felt by rectal exploration to be very firmly attached, but after some difficulty and with use of hooked embryotomy knife, I succeeded in detaching every portion except next left kidney, and I might here state that members of our profession who have never had any experience in removing abdominal growths have not the slightest idea of the care required in using the knife, the great necessity of acuteness and touch, and accurate anatomical knowledge. By unfastening one end of ecraseur chain I was able to pass the free end around growth, pushing the ecraseur in opening, fastened the free end of the chain, and by the assistant turning the ecraseur I removed the tumor, which was semi-cartilaginous in the centre, perforated in all directions by small fistulous openings, which on pressure would show that they contained pus of the same character as that discharged by inguinal sinus.

No hemorrhage occurred during the entire operation. Effects of chloral well marked. After treatment consisted in placing the horse in a warm box stall that had been thoroughly disinfected, a vegetable diet given, and the purest of cold water, little at a time.

January 2d, day of operation.

8.30 P.M.: Temperature, 103 4-5°, F.; pulse, 90°; respirations, 65°.

January 3d.

8.30 A.M.: Temperature, 103°, F.; pulse, 88°; respirations, 40°. Nothing but serous discharge from incision; no discharge from sinus. 1.30 P.M.: Temperature, 102 3-5°, F.; pulse, 96°; respirations, 56°. 7 P.M.: Temperature, 103 1-5°, F.; pulse, 96°; respirations, 40°. Pulse indicating peritonitis; slight pain; tincture arnica given every two hours, and morphia sulph. gr. ii.; hypodermic tincture acon rad. gills, x.; hypodermic tincture acon rad. gills, x., 4 to 6 hours.

January 4th.

9 A.M.: Better; temperature, 102 4-5°, F.; pulse, 72; respirations, 36. 1.30 P.M.: Temperature, 102 3-5°, F.; pulse, 88°; respirations, 24°. 7 P.M.: temperature, 102 3-5°, F.; pulse, 75°; respirations, 24. Appetite good; urine milky; bowels moved three times during night; passages soft; little pus comes from incision, none from sinus.

January 5th.

9 A.M.: Temperature, 101½°, F.; pulse, 70°; respirations, 16°. 7.30 P.M.: Temperature, 101°, F.; pulse, 70°; respirations, 16°. Pus runs freely from incision; no swelling.

January 6th.

9 A.M.: Temperature, 101°, F.; pulse, 65°; respirations, 16°. Urine chocolate, and large quantity passed; did not examine any; there was no change in the pulse, respirations or temperature till January 8; appetite good; actions bright; there has been no swelling of any kind, and but very slight soreness; when moved can be noticed in left limb.

Evening, January 8th.

Temperature, 104°, F.; pulse, 78; respirations, 32. Appetite

good; ate mess for supper, which consisted of boiled oats with little bran and six carrots; horse lay down and rested quiet six hours during night.

January 9th.

4 P.M.: Temperature, $104\frac{1}{2}^{\circ}$, F.; pulse, 90° ; respirations, 40° . No appetite; anxious physiognomy; injected membranes; ears and limbs cold; I saw that there would be a fatal termination shortly.

Morning, January 10th.

No chance for recovery; had him destroyed immediately, and at necropsy found but very slight peritonitis, and renal fistula was pathological condition I had been dealing with; there was nearly complete degeneration of the left kidney; there was the same kind of pus as in growth removed at operation; the right kidney was greatly hypertrophied, weighing 2 lbs. and 13 oz.

Now, the question arises: Was the tumor the result of the diseased kidney or *vice-versa*; was renal fistula the result of suppurative nephritis? It could have been the result of calculi, foreign body gunshot wound, or nephritis. There was no obstruction in the ureter. I have since learned that this horse never showed any but healthy-looking urine until time I mention after operation. Knowing that there are but few cases of renal fistula recorded in human practice, and none in veterinary that I can discover, I sent you the kidneys, Mr. Editor, without making any examination to discover calculi or foreign body, and regret very much that I did not preserve the tumor that I might have sent it also; the tumor would certainly weigh one and a half pounds. Other interesting points in this case are that the horse should remain in such good condition, and that there should be such a variation in temperature, pulse and respirations, in so short a time that there was no swelling, and but very slight soreness. The tumor misled me, from the fact of its being small on side next kidney—*i.e.*, having a constricted portion on kidney side. I could have performed nephrotomy at same time with but little more trouble had I the slightest idea the kidney was diseased. I rather think it had undergone such a change that the renal artery would not have

had to be ligated. There was nothing to be discovered at necropsy that should have caused this horse's death except the kidney, and I did not examine that as closely as I should, for the weather was cold and gave me a chance to send to New York for examination while fresh.

What caused the sudden failure? Exception might be taken to the place I selected for external opening, but I contend that that was the better place for incision; first, for drainage; second, easier access to location of disease, and safer; but I would not argue that it was the best place for incision in nephrotomy, but I could have removed this kidney in this case had I been able to see its condition as I would have in a flank incision. In explanation, to cause of no swelling, etc., I would state that I think if every surgical operation was performed with the following precautions there would be less unfavorable results: the operator should not touch the horse or rope until the animal is cast and secure, and veterinary surgeons, I am sorry to say, are too careless about the condition of instruments and their hands when operating. Every instrument, as well as the hands of the operator, should be thoroughly washed in carbolized water. The proper use of disinfectants and antiseptic remedies in the apartment occupied by the patient is just as necessary as that they should be applied to the wound.

STRANGULATION OF SMALL COLON.

BY W. H. ADAIR, V.S.

An aged gelding, weight ten hundred, had been used regularly for the past two years on public carriage. I was called in haste at 6 A. M., January 9th. He was all right at 5 A. M., eating his regular feed. After eating about half, he began to perspire very freely, so much so that it ran off in great drops. He staggered and fell backwards, breaking his halter. When I arrived he was unrestrainable—even unto madness—sweating profusely, rearing, crouching behind, falling backward, rolling upon his back, sitting on his haunches, pressing his nose to left flank and biting at abdomen. A subcutaneous injection of 6 grs. of morphia stopped perspiration and pain to a certain extent for half an hour. At this stage his pulse was 50 and strong, temperature only 90°; the

introduction of my hand into the rectum caused acute pains, although it was quite empty. I made a diagnosis of strangulation of the lower bowels, after hearing the following history: During the last six months he has had as many attacks, which would last from three to ten minutes, during which time he would tremble and sweat very profusely, recover, and apparently be all right for a month or so. Some of these would come on while out driving, but as a general thing immediately after watering.

After an hour from the administration of the opiate he began his former antics. I now let him inhale chloroform until he went down completely under its influence. I kept him in this condition for over an hour with hopes of reducing the strangulation, but to no effect. I now took into consideration the low rectal temperature, the irritation caused by rectal examination, pulse growing weaker, membranes becoming more injected, anxious expression of countenance and persistence of the symptoms, and concluded that any treatment other than opiates would only hasten the death of the animal. Therefore I gave subcutaneous injections of morphia as the symptoms required. After eight hours he became very tympanatic, which I relieved with the trocar. Gas came away dry, showing no inflammation of the large intestines. He now urinated freely. I now left him, telling the groom to call me if he swelled again, but he went to sleep, and I found my patient dead the next morning.

Post-mortem.—Very tympanitic; no inflammation of large intestines; the small colon all rolled up in a mass about the origin of the posterior mesenteric artery. This I severed and held up, and it made three complete turns before untwisting: presented very little inflammation in some of its parts, while other parts were undergoing gangrene for six inches in places. The reason of this patchiness was due to blood supply being shut off by strangulation.

COMPLICATED INFLUENZA.

BY H. B. PRATT, V.S.

Case I.—Large sorrel horse, five years of age, taken sick with influenza October 28th. Began to improve about November 4th, and improved so that on November 8th his nurse complained that

if he left him for any length of time he would eat his tie-rope and get loose and fight the other horses. I might state here that it was a very large sale stable, and the sick were kept on the second floor. On the 10th he commenced to discharge a large amount of saliva, and could not eat so well; the day before he was a great feeder. I made an examination of his mouth as well as I could; he was very loth to have his mouth handled. I noticed on each side of his tongue a watery-like swelling. I lanced it, but it would not bleed. I left a mixture to be used with syringe; was called back in one hour. The horse had fallen for want of breath. I at once performed tracheotomy; it gave him a great deal of relief, of course, but every time he attempted to swallow he would have a strangling spasm and some of the gruel would be returned through the tube. The next day I again lanced the swellings, and a black, tarry-like blood issued forth. The tongue was now protruded some four inches, and was cold and dark-colored. He died next day, suffering terribly; could not get near him. I did not get an opportunity to hold post-mortem on this case.

Case II.—Had sore throat for four or five days; was four years of age; in same stable. Was kicking up his heels at 12 o'clock; at 2 o'clock was breathing labored. I got to him at 3 o'clock; was compelled to perform tracheotomy at once; did not give any drink at all; same symptoms all through; tongue would not bleed, and was protruded same as first case. He died at 11 o'clock.

Post-mortem showed everything seemingly healthy, except tongue and glands underneath; tongue was as large as the mouth would allow, it being forced open three or four inches.

VETERINARY LEGISLATION.

AN ACT TO REGULATE THE PRACTICE OF VETERINARY MEDICINE AND SURGERY IN THE STATE OF NEW YORK.

Introduced by Mr. WINDOLPH—read twice and referred to the Committee on Public Health—reported favorably from said committee and committed to the Committee of the Whole

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION I.—No person shall practice veterinary medicine and surgery, or any branch thereof, in this State for compensation, or shall, either directly or indirectly, receive or accept for his services as a practitioner of veterinary medicine or surgery, any fee or reward, except he be duly registered as hereinafter provided in the book for that purpose in the office of the Clerk of the county in which he resides.

§ II.—No person shall be entitled to register as such practitioner unless he be a graduate of a legally chartered or incorporated college or university, or shall hold a certificate of qualification from a legally incorporated veterinary society, organized at least one year before the passage of this Act, and such certificate shall be issued at least one year previous to January first, eighteen hundred and eighty-six, except as provided for in Section III of this Act.

§ III.—Any person who has been continuously practicing veterinary medicine and surgery in this State as a means of livelihood, for a period of not less than five years immediately preceding the passage of this Act, without having obtained a diploma or certificate from a legally chartered or incorporated veterinary college, university or society, as provided for in Section II. of this Act, must register within six months after the passage of this Act, upon making and filing with the Clerk of the county in which he resides, an affidavit, stating that he has been so continuously practicing veterinary medicine and surgery for the period hereinbefore prescribed.

§ IV.—The County Clerk of each county shall provide a book, to be known as the "Veterinary Medical Register," in which shall be recorded the name of the registrant, the name of the college or university granting his diploma, or of the society granting his certificate; or should the applicant not present such diploma or certificate, then the Clerk shall file the affidavit prescribed in Section III of this Act, after which such applicant must register in like manner as if he had presented a diploma or certificate from a veterinary college, university or society, and shall then be

entitled to continue the practice of veterinary medicine and surgery. Every applicant who shall have complied with the foregoing provisions, and shall be admitted to registration, shall pay to the Clerk of said county the sum of two dollars, which shall be received as full compensation for such registration.

§ V.—Any person who shall present to the Clerk for the purpose of registration any diploma or certificate which has been fraudulently obtained, or shall practice veterinary medicine and surgery without conforming to the requirements of this Act, or shall otherwise violate or neglect to comply with any of the provisions of this Act, shall be guilty of a misdemeanor, and shall for each and every offence be punished by a fine of not less than fifty dollars, nor more than two hundred and fifty dollars, or by imprisonment in the county jail for a term of not less than ninety days, nor more than two years, or by both fine and imprisonment. But nothing in this bill shall be construed to prohibit students from prescribing under the supervision of preceptors, or to prohibit gratuitous services in case of emergency, or to prohibit the services of an authorized practitioner of a neighboring State when incidentally called into requisition.

§ VI.—This Act shall take effect immediately.

CORRESPONDENCE.

ON THE USE OF MORPHIA.

SPENCER, IOWA, Jan. 21, 1886.

DEAR SIR: I noticed in a number of the REVIEW last summer an article which appeared at the time to me to be a pretty strong drawn fable with reference to the amount of morphia which a certain old horse took with apparent benefit. My doubts are all dispelled, however, by a case I had recently. Mr. J. L. Hewitt, of this place, called on me to give him something to give an old family horse which was too old by several years to be of any use to him and whose life appeared to be a burden to herself; something which would comfortably ease her out of existence. I gave

him one drachm of morphine, which he gave in solution at one dose to the mare. She was then turned loose in a small paddock where her grave was dug. All day she wandered around, appearing dull and stupid, eating nothing and drinking nothing. Next morning she was livelier than she had been for years before, frisking about like a young horse and calling loudly for her oats. Mr. Hewitt, however, thought her coltishness liable to be too ephemeral and too expensive to be repeated, so he had her shot.

Another case which may be of interest to your readers was that of a heifer belonging to Dan Gillespie of this place. The man in charge of her told me the cow had "cast her wethers," as the expression is here. I found the heifer, which was in calf eight months, with her vagina everted. I replaced the tumor, which was as large as a man's head, and retained it in position with the bottle pessary described in Fleming's Obstetries, and gave ten grains morphine to allay the straining. Had to replace it in two weeks on account of part of tackle slipping, and in four weeks more delivered a healthy calf with some difficulty, after which straining permanently disappeared.

W. P. ROBINS, V.S.

SANITARY LEGISLATION.

FORT WALLA WALLA, W. T., Jan. 20, 1886.

Editor American Veterinary Review :

DEAR SIR: A bill for an Act to suppress and prevent the spread of contagious and infectious diseases among domestic animals has been introduced in the Legislative Assembly of Washington Territory by Hon. J. Dewar, Member of the House of Representatives. Sanitary legislation is greatly needed in this Territory, as glanders prevails to an alarming extent and is spreading rapidly.

Respectfully,

E. R. FORBES,

Veterinarian 2d Cavalry, U. S. A.

TREATMENT OF SPRINGHALT.

BOSTON, January 19, 1886.

DEAR SIR: In the January number of the AMERICAN VETERINARY REVIEW, page 428, is an article on "Treatment of Springhalt by Shoeing," by Mr. Montagnac, in which he says, "The treatment of this affection, originated by Mr. Watrin, is carried out by proper shoeing, etc." The study of animal locomotion, especially in the horse, is a subject in which both my father and I have always taken a deep interest. During my practice of about fifteen years I have never treated springhalt except by shoeing in the adult, and by careful modification and cultivation of the hoof in those younger, and it is well known my father has followed this practice for a much longer period. My impression has been that he originated this system by treatment for springhalt and other diseases peculiar to the horses' limbs. If, however, some one is ahead of us, none will be more willing to give credit where it rightfully belongs.

Will you have the kindness to inform me where I can obtain Mr. Watrin's explanation of his system, and whether it is old or new. Please pardon my troubling you with this, as you are aware the views held by me with reference to diseases of the locomotive organs subjected me at times to severe criticism by members of the profession and others. It is, therefore, some satisfaction to find others working in the same field and attracting the attention of scientific societies.

Although rather late, permit me to present to you the compliments of the season.

Yours faithfully, WILLIAMSON BRYDEN.

VETERINARY LEGISLATION.

MALONE, N. Y., Feb. 9, 1886.

Prof. A. Liautard, M.D., V.S.:

DEAR SIR—The REVIEW informs me to-day of veterinary legislation. I am rejoiced to see it. Our Assemblyman from this county asks for instructions. I see there are two bills. The first one suits me best for many reasons. I am not a graduate of

any college of veterinary medicine, but have practiced ten years and studied all the text-books I could reach, and have met with success and am getting a good practice. I have never been able to find time and money to get through college, as I certainly should have liked to, and am not at enmity with the bill proposed. I shall do all I possibly can for it, and take my chances for future practice. I am with you in thus protecting the people at large as well as the profession. Now, what I wanted was this: Please write me at once what you want, and I will see that Clinton, Franklin and St. Lawrence counties are with us shoulder to shoulder. I can do all you ask me to get this part of the State for the bill. If you have any suggestion, or anything that will be of use to the advancement of veterinary medicine, I shall heartily work for all that is just for its cause. If you think this is of use to you, let me know in haste, so all can act on the approach of the bill.

Very respectfully,

DR. GEO. H. KIDNEY.

OBITUARY.

W. G. SCHMIDT.

W. G. Schmidt, D.V.S., of Newark, N. J., died suddenly on the 17th ult., from heart disease. He had returned home only a short time since, after recovering from a very severe attack of nervous disease, brought on by ambitious hard work, and everything seemed to indicate that he was to enjoy a long life, when, returning from a short promenade, he was suddenly taken away. Dr. Schmidt graduated at the American Veterinary College, class of 1878.

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of the New York State Veterinary Society was held at the American Veterinary College, New York, on Tuesday, February 9, the President in the chair.

Members present were: Drs. Burden, Berns, J. S. Cattanach, Bretherton, R. W. Finlay, Dixon, Jacobus, R. Ogle, Denslow, Kay, Pendry, Faust and R. M. McLean.

Minutes of last meeting were read, and on motion, adopted as read.

The following paper on Hernia was then read by Dr. Faust, of Poughkeepsie :

HISTORY AND TREATMENT OF HERNIA.

It is probable that the existence of hernia in animals was known as early as it was in human beings, although ancient veterinarians say nothing about their cures through operation.

Jordanus Ruffus, who lived in the thirteenth century, was probably the first man who operated on serotal hernia, but he speaks of it in general as incurable.

Solleysel, (1677), a blacksmith, invented a bandage in which the animal could work with all ease; he claims to have cured hernia with an astringent, but asserts that castration is the *proper* method of treatment.

Robertson, (1767) mentions a number of cases of umbilical hernia, of unusual large size, which were successfully treated with the bloody seam.

Vitet, (1771), advises to enlarge the ring to permit the intestines to go back, and then use the quilted sutures in serotal hernia, but acknowledges that the operation is very difficult, and the success doubtful.

Lafosse, (1772), advises the seam over the opening of the rupture; also mentions the treatment with a bandage in fresh cases, with good success; if this fails close the ring with sutures.

Wolstein, (1784), asserts that strangulated inguinal hernia can neither be successfully operated on, nor, through any other means, be cured; and speaks of all minor ruptures as incurable. His opinion is that the use of bandages in young animals does more harm than good.

Viborg, (1802), says that the closing up of the ring is the most difficult and dangerous method, but, at the same time, mentions that Abildgaard and Lund, of Spain, have, by this method, very successfully operated on horses.

Schreger, (1803), used for umbilical hernia the seam or ligature; and on serotal hernia, the ligature of the whole scrotum.

Pilger, (1803), considers all bandages useless, but treats inguinal hernia by closing up the rings by sutures; and treats serotal hernia by castration.

Roupp, (1811), operated on a horse for inguinal hernia by the covered operation, after replacing the intestines through the rectum.

Colin and Delafoy, (1826), adopted the same method, with good success.

Greve, (1821), considers the operation of large and chronic serotal hernia very difficult, but a cure possible. He does not agree with Wolstein, who says that all ruptures are incurable.

Girard, (1827), wrote an essay on inguinal hernia, in which he reported thirty-six cases.

Renault, (1836), operated on two horses for strangulated inguinal hernia, after inflammation had set in, but without success. His opinion is that an operation before the inflammation sets in, if the intestines do not protrude too far, by an incision made in the flank, will successfully reduce the rupture; but an operation in that manner by Duttenhofer, (1838), was without success.

Jessen, (1840), operated on thirty-nine horses with strangulated serotal hernia, and saved twenty-eight; his method is not mentioned.

Elonet says, that during twenty-six years of practice he operated on three

thousand animals for hernia, using the shoemaker seam, of which he lost but three, and they died of tetanus.

The history of cases of hernia that have occurred within the past few years I have not mentioned, as, undoubtedly, they are known to all the members of this Society.

Case No. 1.—A three year old gelding, owned by Mr. S., was treated for umbilical hernia by counter-irritation and astringent. To this treatment I objected, on the ground that the ring was too large; but the treatment was continued for two months, and then terminated in strangulated umbilical hernia. I was then called. I cut through the skin, enlarged the ring to allow the intestines to go back, but, as mortification had set in, was unsuccessful.

Case No. 2.—An eighteen months old gelding, owned by Mr. M., had umbilical hernia. I operated after the method of Traeger, by placing a ring of sufficient size over the hernia, and, with a pair of forceps, pulled the skin through the ring, placed a ligature between the belly and the ring, and, by so doing, strangulated the surplus skin. On the third day I placed the second ligature in the same place, and on the tenth day the slough was complete, and a good recovery was made.

Case No. 3.—A bull dog, King of the West, owned by Mr. R., was injured by a cow. The injury produced a ventral hernia of a very large size; his owner brought him to me to be operated upon; I made an eight-inch wooden clamp, pulled the skin tight, and then placed the clamp over the ring and fastened it the same as in castration, only temporary; then I put three screws through the skin and clamp. The skin sloughed off in fourteen days and made a good recovery, so that even now no scar can be seen.

Case No. 4.—A four year old gelding, owned by Mr. O., had inguinal hernia. Treatment.—I first reduced the hernia through the rectum, as advised by Roupp; then placed a clamp as tight to the ring as possible, and fastened with screws as before stated; in thirteen days the slough was complete, and a good recovery made.

Case No. 5.—A three year old mare, owned by Mr. V., had a very large umbilical hernia. I operated with the clamp, and was unsuccessful. Operated the second time with the shoemaker seam. I placed a temporary clamp on top of the ring, pulled the skin tight and made the seam between the ring and the clamp. The operation was successful. This method is recorded in Herring's Surgery, page 204.

Case No. 6.—A five year old mare, owned by Mr. S., had a ventral hernia. I operated with the clamp; the slough completed as usual, but with no good results.

Case No. 7.—A male colt, four weeks old, owned by Mr. M., had a double direct inguinal hernia; it was so large that the colt could not stand erect to nurse longer than a minute; it learned to reduce the hernia with its own mouth. I operated after the method adopted by Seblanc, reported in "Foster's Surgery," page 359. Two men held the colt suspended by his hind legs; this brought the hernia back. I used the curved needle with cat-gut; placed the needle a half-inch back from the edge of the ring; pierced through the outer skin and abdominal muscle, then carried the needle to the opposite side of the ring, half an

inch from the edge of the ring, and brought the needle to the surface; closed the ring by tying; then made four sutures in each ring in the same manner. The colt made a good recovery. The reason of my accepting this method, was because it prevented the air from passing into the abdominal cavity.

The paper proved very interesting and resulted in a very general discussion, during which Dr. R. W. Finlay expressed his pleasure at having heard the paper read; he considered it placed at our service a statement of the different plans, and the essayist's own one was certainly unique, and considerable credit was due him. The operation was one that might be termed a covered one, and the only danger, he thought, likely to result, was septicemia following the large slough.

The essayist replied that he had not had any trouble in that way; he had treated many more cases than those reported, with equally good results, and in answer to the Chair, said the clamp simply held the skin.

Dr. J. S. Cattnach said he had used a steel clamp with hinge and screw, with success. He favored the essayist's treatment, as did most of those present.

The discussion closed with a vote of thanks to Dr. Faust for his paper.

Dr. Pendry's notice of alteration of By-Laws was then taken up, who explained that the first alteration was to change the annual meeting from March to December, and his reason for wishing to do so, was that the act, under which the Society was incorporated, called for a yearly statement to be filed with the Clerk of the County, in the month of December; if the change was made, a copy of the annual report could be filed.

A motion was made and carried to the effect that the alteration be made, to take effect after the next annual meeting.

The motion to alter Section 1 of Article IV, so that all newly elected members should be residents of the State, after much discussion and opposition, was voted down; also the one obliging members to pay their initiation fee before being placed on the roll; it being held, that under the present reading of the By-Laws, no one became a member until he had done so.

The proposed alteration, making the annual dues two dollars instead of one, was unanimously adopted.

Dr. Pendry, chairman of Committee on Legislation, reported that the bill, as adopted by the Society, had been introduced into the Assembly and referred to the Committee on Public Health. He had found that another bill, endorsed by the Rochester Veterinary Medical Association, had been introduced a week previous, which also had been referred to the same committee. In response to a notification, he had appeared before that committee at Albany. He need hardly say that he had opposed the Rochester bill, which called for an Examining Board to examine all those now in practice, whether graduates or not. It was not on that account that he had done so, as that was about the only good point in the bill; but because he was sure it would never see daylight outside of the committee room, an opinion that he was upheld in by many members of the Legislature; and so he had viewed it as a stumbling block to the other one. He had, therefore, opposed it and pleaded for the one endorsed by this Society; and he was pleased to say that the committee had viewed his arguments so much more favorably than those of the Hon. Chas. R. Pratt, the father of the other bill, that they had reported favorably the Society's bill, with a slight amendment, so that

students could prescribe under the supervision of preceptors; that gratuitous services could be given in cases of emergency, and that authorized practitioners of a neighboring State could prescribe, when incidently called into requisition. The report was received with applause.

The Secretary presented a bill of ten dollars, being his expenses to Albany in March, 1885, on legislative matters, which, on motion, was ordered to be paid.

The Secretary reported that only the American Veterinary College had replied to his notification as to prizes.

The President gave notice that he had appointed Drs. S. S. Field, Geo. H. Berus and R. W. Finlay, as Examining Committee for prizes.

Meeting then adjourned.

W. H. PENDRY, D.V.S., *Secretary*.

OHIO STATE VETERINARY MEDICAL ASSOCIATION.

The Ohio State Veterinary Medical Association held their annual meeting at Mount Vernon, January 12, Dr. J. V. Newton presiding.

An address of welcome was delivered by Dr. J. C. Gordon, M.D., who welcomed the Association to the hospitality of the city.

Twenty members from different parts of the State were present to answer the roll call.

The reading of the minutes of the previous meeting was next in order. They were approved as read.

New members were then proposed.

T. E. Jones, V.S., Newark, Ohio, and Prof. Detmers of the State University, were then vouched for as being graduates of a regularly constituted veterinary college. The ballot was passed and both members were duly elected.

Upon being introduced, Dr. Jones said his forte was not speech making, but he felt proud to become a member of an Association where the quack horse doctor was not recognized as a professional; and he hoped the day was not far distant when legislation would prohibit all non-professionals from assuming the title of Veterinary Surgeon, unless they were entitled to the degree.

Dr. Detmers expressed his pleasure at becoming a member. He thought the profession in Ohio ranked with that of any other State, but still had not attained that place of honorable distinction to which it was entitled. Twenty years ago, when he landed in this country, he felt ashamed to claim the title of Veterinary Surgeon. Happily those days are gone by, and now the masses begin to understand what the title means, and now the profession ranks amongst other professions—as of right it should. He also spoke of the modern discoveries that had been made by the veterinary profession, not only in this country, but in foreign countries. One unfortunate feature is that most of our veterinary colleges are private enterprises, when, in his opinion, they should be State institutions; and until then there would be great difficulty experienced in perfecting the education of young men. And now seems to be the proper time for the different States to open such institutions, where young men will receive a thorough veterinary education. He was proud to state that Ohio had taken the proper steps in connection with the State University at Columbus. He expressed himself pleased

to see the harmony that was existing in the profession in Ohio, as unity is strength, and without the united support of the profession, veterinary legislation could not be obtained.

The next business in order was communications and correspondence. A letter of regret was read from Prof. A. H. Baker, of the Chicago Veterinary College, who stated that he would be unable to attend, but expressed his thanks for their kind invitation, and it would have afforded him great pleasure to attend the meeting; and that he was particularly interested in veterinary education, and that any practical suggestions that the Association might make would meet with his approval.

A letter of regret was read from Dr. R. W. Finlay, of New York, who stated he would be most happy to attend our meeting, but important business connected with professional interests in this State, compelled his close attendance there. The subject of medical education he felt deeply interested in, and there was great need of a united and general effort in that direction. He was glad that Ohio will lead in the matter, and wished them every success. He also asked that his congratulations be extended to the members of the Association, and wished they might have a pleasant and profitable meeting.

A communication was also received from Prof. Liautard, in answer to the resolutions passed at a previous meeting, bearing upon the subject of veterinary education. "In answer to the first query relating to matriculatory examination, you will notice, by reference to our announcement, that we require certificates of schools of English education; and if this is not obtained, our candidates are submitted to a close examination in reading, spelling, writing, etc., etc. This is little, I agree with you, but is it not enough? Can you not judge of the general ability and education of one by those alone? Is it not fair to believe that one who writes good and correctly, and reads well, is most certainly in possession of a better education than we could require, say in arithmetic or other branches. We ask this examination, we enforce it, and therefore you see, that we fully appreciate its value and its necessity. Second, as to making the course three years. This is a step I have always encouraged, and still I doubt if it can be faithfully, honestly and truly enforced, except on one condition, that is to do as we do. We demand at least two years, but we do not make it obligatory that a student must graduate after that length of time—far from it. To all who can, we advise to take three years, and many of our students follow our advice. I do not believe that it is in the number of years that will be put on an announcement that we can expect to inspire our graduates. I believe it will be in the honest, true and impartial examination of a candidate; and you will agree with me that many two years' students have graduated who did not deserve it. It is true, however, that many have turned out to be good practitioners and useful veterinarians. I doubt if this three years clause will ever be adopted, so long as veterinary colleges remain private undertakings, and so long as the loose manner of education is allowed to be followed, as it is in some, by a graduation to one who has never been in college or never passed a single examination at a college. What I would like to see is this, a National Board of Examiners to grant the same, and award diplomas to candidates coming from any school, but such as are debarred from that power of granting diplomas. This, I believe, would be just right, and

just in proportion to the standing of the veterinary profession at present. Third, Do I believe in apprenticeships? Yes, I believe students will do well to get practical knowledge as soon as possible, providing it is with an educated man." Prof. Liautard also expressed his regret at not being able to attend the meeting, but hoped we might have a pleasant meeting, in fact, he knew we would, and asked the Cor. Secretary to be his interpreter, and extend to the members his most sincere wishes for their future welfare.

Another communication from Dr. Jas. Hughes on behalf of the Trustees of the Chicago Veterinary College, was received. "Regarding the first query therein, viz.: That the applicant for admission be required to pass a creditable examination in spelling, reading, writing, grammar, arithmetic, and possess a good common school education, we would state that since the organization of the Chicago Veterinary College, this rule has been rigidly adhered to, each student, on failure to produce a certificate, being subjected to a critical examination in the common school branches before being enrolled. Query second, That the term of study shall be increased from two terms, as it now is, to three. Before answering this query permit us to make a short statement. Nearly a year since, a bill entitled, "An Act to Regulate the Practice of Veterinary Medicine and Surgery in the State of Illinois," was introduced into the Legislature. Fath-tered by the Illinois State Veterinary Medical Association, modest in its demands, and comparatively lenient to those whom it was intended to operate against, this bill was thrown out by committee both in the House and Senate, the sole objection being that the examination asked for, although rudimentary, would exclude the majority of non-qualified practitioners in the State, and leave extensive areas destitute of veterinary services. This reply gives the key to the status of the profession in this and many adjoining States, and leads the way to the question as to whether we are justified in voluntarily consenting to extend the course of the Chicago Veterinary College from two to three terms. Under the existing circumstances we think we are not. We consider we would be doing an injustice to ourselves, as qualified practitioners, by limiting the number of students who attend colleges, thus leaving the profession often to non-graduates, with whom the properly qualified veterinary surgeon is practically placed upon the same level. We would be doing an injustice to live stock owners, as also to live stock, by continuing to leave them in the hands and at the mercy of those who have and still take advantage of the old time privilege to usurp the title of Veterinary Surgeon. And lastly, we would be doing an injustice to our students. The average veterinary student is not a millionaire, and in the majority of cases can ill afford to bear the expenses attendant on an additional term. He is usually a man of ambition and energy, who by years of toil and saving, accumulates sufficient to enable him to attend college with a view of graduating. Possessed of a good common school education, accustomed to industry during his early life, he carries his industrious habits with him to college. Here he wastes no hours of study; he sees all the diseases which occur in routine practice; he assists in the performance of all operations which are necessary, upon all the lower animals; and after attending two full courses he passes an honorable examination and graduates. So much for the two years' course which we still adhere to. We consider that a three term course would be premature at present.

The profession, in its existing condition in the West, does not demand that such a change be made, and the condition will continue so long as the unqualified clement predominates; or in other words, so long as educated veterinary surgeons are sparsely distributed. When the supply of competent veterinary services bears any kind of close relation to the demand, then in our opinion will be time enough to extend the course from two to three terms. Regarding the third query, that each student shall be required to devote the intervening months under a qualified veterinary surgeon, I would state that we have no rule making it compulsory on students to spend their summer months in the manner indicated, but that we recommended it in our prospectus, and have always continued to impress upon our students the advantage to be gained from adopting such a course. Should the rule become generally adopted, we would have no objection to including it in our prospectus, and seeing that it was enforced as far as practicable. We wish you to convey our regrets to the Association at being unable to be present; however, we wish you may have a pleasant meeting."

A lengthy communication was received from Dr. J. C. Meyer, Jr., chairman of the Committee on Diseases, whose duty it is to report on new and interesting diseases which come under their observation since our last meeting. No less than thirty-nine cases of glanders had come under his observation during the past year. He also referred in his report to the incompleteness of the laws regulating the suppression of contagious diseases, and urged the members present to take some steps to get proper legislation on the subject. He also spoke of the Humane Society of Cincinnati destroying many cases, but in reality they have no authority.

A communication was received from Dr. Forbes, V.S., Second U. S. Cavalry, asking that the Ohio State Veterinary Association endorse a petition asking the military authorities at Washington to make the army veterinary surgeon a commissioned officer, as it is in foreign countries. The petition was signed by President Newton and Cor. Secretary Fair, and will be forwarded to Washington, D. C.

A lengthy discussion took place on veterinary education, reviewing what had been written by Prof. Liautard and Prof. Hughes. It was the unanimous opinion that some steps should be taken to induce the faculty at the different colleges not to permit all students to graduate who attend their institutions. It is an outrage on any college, and especially upon qualified members of the profession, to allow a student to leave the institution who has been unable to get up the necessary work, and did not pass a creditable examination. What can injure the profession more than an incompetent, ignorant graduate, who, as a rule, takes special pride in telling where he is from when he is called upon to give expert testimony in court, or to hold a post-mortem, and write out a report, or even write a prescription, he being utterly unable to do so. Does it not look bad for the institution where he graduated? The question is, can the trustees of veterinary colleges afford to do this kind of work? It is a fact that some students are admitted into colleges who have not got a common school education; who cannot write a single sentence grammatically; but they are private enterprises, and are, perhaps, conducted for dollars and cents, and are ready to take in those who apply. Several members stated that they did not know of a single applicant being

rejected. Now if such institutions are conducted in this loose method, will it not be a long time before the profession will be recognized by showing that they have ability, and are competent to practice their profession? The fact is, the course of instruction is too short to teach the ordinary student what he should be taught. Medical students, as a rule, spend four years, and few less than three. Why should veterinary students not do likewise? Such was the expression of those present. The Ohio Association wishes to impress upon the minds of those most deeply interested in the education of young men for the profession, that the institution that turns out the best educated graduates will get their influence and support.

Dr. Colton made an excellent report of what was done at the meeting of the National Veterinary Medical Association, held in Washington last December. The time and place of holding their next meeting being left to the Ohio Association, it was decided to hold it in Columbus, O., January, 1887; and on that date, if possible, to induce the United States Association to hold their meeting in order that some compromise whereby an amalgamation of the two associations may be effected. There seems to be no special necessity of having the two associations, and the only hope of ever bringing about a union of the two was by holding a meeting on the same date and in the same city, where a committee from each might confer, and if practicable, hold a joint meeting. It is rather unfortunate that a few dissatisfied members should obstruct such a move, because in the end it would certainly prove advantageous to the profession at large. And after that is accomplished hold a four days' session in order that important subjects might be discussed, and the profession benefitted thereby.

Dr. W. F. Derr, of Wooster, O., read an able paper on "Parturient Apoplexy," which called out many valuable suggestions.

Dr. J. C. Meyer, Sr., Cincinnati, O., read a paper on "Epizootic Cellulites," which was listened to with interest.

A motion was made to ask Prof. Liautard to publish both papers in the REVIEW.

A vote of thanks was passed upon Prof. Liautard for publishing Dr. J. C. Meyer Jr's., paper on "Osteo Porosis."

A vote of thanks was tendered Dr. J. C. Gordon, M.D., for his address of welcome.

The Chair appointed a committee consisting of Drs. Butler, Howe and Chase, to draw up such resolutions as this Association may deem proper to have spoken on by Prof. Dethmers at the different county institutes where he expected to make several speeches on veterinary legislation. The following is their report:

As the live stock of this State exceeds the amount of all agricultural products, and at present is without any adequate protection, we, as a committee, recommend the following: First, that all known cases of contagious and infectious diseases among live stock should be reported to the proper authorities, and that a practitioner of veterinary medicine be compelled, under the penalty of a fine, to make such a report. Second, that all qualified veterinarians have the power to destroy any or all cases considered by him to be dangerous, or to quarantine them, if in his opinion advisable. And in case of dispute the owner to have the right to call in the State veterinarian; and also that the State compensate

the owner for the loss. Third, and to assure the public that a veterinarian is qualified or unqualified, let such County Clerk keep a book of registration and compel such a graduates or non-graduates, as the case may be, to register their names and residences therein. Fourth, and after a period, to be decided upon by this Association, none but graduates of standard veterinary colleges be allowed to register or use the title of Veterinary Surgeon, under the penalty of a fine.

Dr. Colton related some very interesting cases of tuberculosis, both in man and beast. Something must be done at once, or we cannot estimate the loss of human life.

The election of officers, which, according to our By-Laws, requires a candidate to be present to make valid his election, was then held, and resulted as follows: President, T. Bent Colton, Mount Vernon, O.; 1st Vice-President, Wm. R. Howe, Dayton, O.; 2d Vice-President, L. B. Chase, Berlin, O.; 3d Vice-President, W. E. Wight, Delaware, O.; Recording Secretary, W. A. Labron, Xenia, O.; Corresponding Secretary, W. C. Fair, Cleveland, O.; Treasurer, J. V. Newton, Toledo, O.; Board of Censors: W. F. Derr, Wooster, O.; L. B. Chase, Berlin, O.; W. B. Howe, Dayton, O.; D. D. Blanchard, Canton, O.; J. C. Meyer, Jr., Cincinnati, O.

The Treasurer's accounts were then audited by Drs. Newton and Fair, and found correct with a balance of \$159.45 in the treasury, which would be increased by the collection of dues.

A motion was made instructing the Secretary to notify all members in arrears that if they do not settle they will be suspended at our next meeting.

The next meeting will be held in Dayton, O., next June; and another meeting in September, at Columbus.

Considerable talk was indulged in regarding unprofessional conduct, but no special charges were made. However, it is likely to be revived in June, when it will receive the attention of the Association.

The subject of a free clinic at Columbus was talked up fully. Some members were inclined to think it was wrong and unprofessional, especially if the Professors made gratis visits in Columbus to treat horses for millionaires. A majority of the members were inclined to the belief that free clinics are the only method to get enough practice at the State University in order that students might see practice, but it was not treating brother professionals right to make visits in the city of Columbus. However, Dr. Detmers said it was not the case, and he desired to treat all the profession in Columbus in a professional manner, and he hoped the practitioners in that city would not feel too sensitive on the free clinic, as they must have material at the college, because they propose to turn out better educated veterinarians than any other institution in the United States. This is a State institution and it must stand.

The Association adjourned after having spent one of the most pleasant and profitable meetings we ever held.

A club of forty subscribers will be sent to Prof. Liautard for the *AMERICAN VETERINARY REVIEW*, commencing April 1st.

W. C. FAIR, V.S., *Cor. Secretary*.

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular monthly meeting of this Association was held in Boston, December 23, 1885.

The President and Vice-President being absent, Dr. F. H. Osgood was chosen Chairman pro tem.

There were present Doctors Bryden, Clements, Howard, Osgood, Peters, Penniman, Marshall and Winchester.

The minutes of the previous meeting were read and accepted, and reports of progress were presented from the Committees on Charter and Revision of the Constitution.

The meeting then listened to the reading of a paper by A. Marshall, M.R.C.V.S., on "Exostoses."

He said they were of two kinds, the "simple," which were regular in outline, round, nearly like bone, and originating from the periosteum—example, a splint; the "asperous," originating from periosteum and bone itself, and also a result of the "simple." The principal examples of exostoses he drew attention to were splints, spavins and ringbones. Of splints, he said they were caused by concussion, injuries, hereditary predisposition, etc., and there is first an inflammation of periosteum, causing a plastic exudation to be thrown out. They do not always cause lameness, but oftener do so in young animals than aged ones, and a horse with high knee action is more prone to them than one with less knee action. A peculiarity of splint lameness he said to be, that the animal will walk sound, but trot lame. Pressure causes pain; there is heat present, slight swelling, and then an exostosis presents itself, immediately in some cases, in others not for weeks. In cases where the lameness is excessive he advised subcutaneous periosteotomy to be performed.

Of spavins, he said hereditary predisposition no doubt operated as a cause, but that they were not entirely due to peculiarity of conformation, and mentioned the sprain of a ligament as a cause.

The origin of this exostosis he said to be in the cancellated structure of the interior of the bone, then inflammation of the cartilage takes place, and it is finally destroyed and a plastic exudate forms, and finally ankylosis takes place. The external deposit is not the *cause*, but the *result* of this diseased process. When ankylosis takes place the lameness generally disappears, but not so if ankylosis does not ensue.

Of ringbones, after classifying them as "true" and "false," and "low" and "high," he said, like the exostoses in the hock, they were the result and not the cause of a diseased process, and took their origin also in the cancellated tissue of the bone itself. He described their location and some peculiarities of the gait of an animal affected with them.

DISCUSSION.

Dr. Bryden said he could not agree with the essayist that the diseased process originated in the cancellated structure of the bone. He thought there was a disturbance set up on the exterior, the circulation of the parts diverted, and their nutrition interfered with. A hyperæmia is produced, the foramina of the bone filled or obstructed, and thus the internal structures cannot get nutrition, and die.

We have an obstructed circulation, and this was produced by an external disturbance; so don't think we can say that the diseased process *commences* in cancellated structure of interior, but that the disease of the cancellated structure is *secondary*. In bone spavin, for instance, extraordinary traction or tension of internal flexor may produce first a slight hyperæmia, slight swelling of tissue in the foramina follows, is kept up, and finally the cancellated tissue is involved by diversion of nutrition.

Dr. Peters asks how, if the vessels are *occluded*, the *exudate* forms?

Dr. Bryden says the arrest of nutrition is developed externally, and this nutritive material forms the exudate—a physiological process. Don't think the view of the essayist, the old pathology, can be held to.

Dr. Clements said the theory of exostoses generally accepted is that they are due to local inflammations, and if due to these, this inflammation must start from the periosteum. If exostoses are classified as *tumors*, and the theory of tumors accepted, that they are due to too great formative material, then these exostoses may be due to floating islands of cartilage in interior of bone, which are left when bone is formed, and then from some cause these form the exudate. Or the exostoses may spring from the cartilage itself, and this, he thinks, is a better working hypothesis.

Dr. Winchester says he thinks the above theory of adventitious cartilage, etc., a sound one, and notes adventitious teeth, etc., in support of that theory.

Dr. Bryden said that true ankylosis exists only in young animals, in older ones we certainly have death of tissue beneath. In a horse at ten years old, with spavin, you will always find disease of cancellated structure beneath. Don't believe the cancellated structure can form an exudate.

Further discussion took place in regard to the diseased process in navicular-thritis.

The paper and discussion which followed were very interesting, and a unanimous vote of thanks was tendered the essayist, Dr. Marshall.

Drs. Blackwood and Bunker were appointed essayists for the next meeting. No other business coming before the meeting, it was adjourned.

The last regular meeting of the Massachusetts Veterinary Association was held in Boston, January 27th, 1886.

Dr. Bryden was chosen Chairman pro tem., and there were present Doctors Bunker, Clements, Howard, Peters, Penniman, Skully, Winchester and Winslow.

The committee appointed to revise the Constitution made a partial report, suggesting that its entire report be presented to a larger meeting than the present one, and advised the calling of a special meeting for the consideration of it.

It was voted, on motion of Dr. Bunker, that a special meeting for the above purpose be called for Thursday evening, February 4th.

There was presented for endorsement by the Association the petition of army veterinarians to the Lieutenant-General in command, calling attention to their present status and praying for rank in the service, and for the establishment of a veterinary corps in the United States army.

It was voted, on motion of Dr. Peters, that the endorsement of the Association be affixed to the petition, and that the members be requested to subscribe their individual signatures.

Dr. Bunker read a paper on "Action of the Horse."

He described the different periods of the horse's action, periods of movement and interval, and the different gaits while in action he described at length. He said the trot is an "American" gait, and *the* one in which a horse can put forth the extremity of his power.

He compared the trot of the horse with that of other animals, showing it to be perfect only in the former.

In comparison with the physiological motion of the horse, the essayist described certain derangements therefrom, as shown in different kinds of lameness.

In lameness of the shoulder, we have a loss of extension and flexion of the limb, and it is carried in abduction.

In elbow lameness, the gait is characterized by excessive dropping, the toe of the foot comes to ground before the heel, and the carpus bends but very little.

In carpal lameness, we see a long gait, leg carried straight, in circumduction, and heel comes to ground first.

In lameness from ringbone, on forward limb, heel comes to ground first; on hind limb, toe to ground first.

In hip lameness, we have only slight movement of the hip, and the animal goes with a hop.

In lameness of the stifle, the principal character of the gait is that the limb is carried in abduction.

In hock lameness, of which there are many kinds, we may have different gaits, but most of them characterized by a short, quick step, the toe coming to the ground first.

He described the lameness of springhalt, and said that it was seen in some horses only in going forward, in others only in going backward.

Of foot lamenesses, he noticed particularly the gait of an animal affected with navicular disease, describing the step as short, quick and catlike; whereas in other foot troubles we generally notice an excess of extension.

Dr. Bunker then showed some very interesting specimens of fracture: A fracture of the os suffraginis into 13 pieces, which took place on a smooth road; fracture of acetabulum, one of ilium, two specimens of spavin, one exostosis at metacarpo-phalangeal articulation, one of navicularthrititis.

Remarks on the paper were made by Drs. Skully, Clements, Bryden and Winchester.

A vote of thanks was tendered the essayist.

Drs. Blackwood and Winchester were appointed essayists for the next regular meeting.

No other business coming before the meeting, it was voted to adjourn.

L. H. HOWARD, *Secretary*.

MICHIGAN VETERINARY MEDICAL ASSOCIATION.

The annual meeting of the Michigan Veterinary Medical Association took place at the Cook House, Ann Arbor, Feb. 2d, 1886.

President S. Brenton in the chair.

The meeting was called to order at 1.30 p.m., and the following members answered to their names upon the roll call: J. Hawkins, Detroit; D. G. Sutherland, East Saginaw; D. Cummings, Port Huron; A. J. Chandler, Detroit; J. A. Dell, Ann Arbor; S. Brenton, Jackson; B. C. McBeth, Battle Creek; H. H. Clement, Cold Water; W. Jopling, Duosso; E. W. Bartram, Paw Paw.

The minutes of the previous meeting were read, and on motion of Dr. Hawkins, seconded by Dr. Bartram, were accepted.

The meeting then proceeded to the election of officers for the ensuing year.

Moved by J. Hawkins, seconded by A. J. Chandler, that J. A. Dell, of Ann Arbor, be elected President.

E. W. Bartram moved, and seconded by Dr. Hawkins, that Dr. Dell be elected by acclamation, as well as the rest of the officers. Carried.

The following officers were elected: President, J. A. Dell, Ann Arbor; First Vice-President, D. Cummings, Port Huron; Second Vice-President, E. W. Bartram, Paw Paw; Third Vice-President, H. H. Clement, Cold Water; Secretary, B. C. McBeth, Battle Creek; Treasurer, W. Jopling, Duosso; Censors, E. A. A. Grange, Moody, and Sutherland.

Moved by E. W. Bartram, seconded by A. J. Chandler, to adjourn and meet at 7 o'clock.

The meeting was again called to order at 7 o'clock.

Mr. Bartram, before retiring, appointed Dr. Hawkins to escort the newly elected President to the Chair, and thanked the Association for having conferred upon him the honor to preside over the organization of this Society.

Dr. J. A. Dell, on taking the Chair, addressed the Association with a few appropriate remarks, then proceeded to business.

Dr. W. Jopling read a very interesting paper on Constipation, and a lengthy discussion followed, which was very interesting.

Moved by Dr. Hawkins, seconded by Dr. A. J. Chandler, to appoint a committee to draft a Code of Ethics. Carried.

President J. A. Dell appointed S. Brenton, Dr. J. Hawkins, D. M. Moody, Dr. A. J. Chandler.

Dr. Hawkins moved, seconded by Dr. Bartram, that there be three delegates in attendance at the National Association at Columbus, Ohio. Carried.

Dr. Sutherland moved, seconded by Dr. Cummings, to ballot for delegates to attend National Association at Columbus, Ohio. Carried, and elected Dr. Dell, Dr. Sutherland, Dr. Chandler.

Moved by Dr. Hawkins, seconded by Dr. Cummings, that the President appoint a committee to draft a certificate. Carried.

Appointed Dr. Bartram, Dr. Hawkins, Dr. Clement.

Moved by Dr. Hawkins, seconded by Dr. Clement, that Dr. J. V. Newton, of Toledo, become an honorary member of the Michigan Veterinary Medical Association. Accepted.

Treasurer's Report: \$87.76 on hand.

President Dell appointed Dr. Hawkins Chairman of Committee, and ordered him to purchase seal for certificates.

Moved by Dr. Chandler, seconded by Dr. Sutherland, that a vote of thanks be tendered to retiring officer and visitors. Carried.

Moved by Dr. Hawkins, seconded by Dr. Sutherland, that the secretary be instructed to correspond with Prof. Liautard and find out what reduction he will make on price of REVIEW to members of this Association. Carried.

Moved by Dr. Sutherland, seconded by Dr. Cummings, that the Secretary send a report of this meeting to REVIEW. Carried.

Moved by Dr. Hawkins, seconded by Dr. Bertram, that Dr. Sutherland, Dr. Jopling, and Dr. Chandler each read a paper at the next meeting. Carried.

Moved by Dr. Hawkins, seconded by Dr. Chandler, that a vote of thanks be tendered to Dr. Jopling for the reading of his paper. Carried.

The visiting gentlemen were Dr. J. V. Newton, Toledo; Dr. Drake, Veterinary Dentist of Lebanon, Ohio (Dr. Drake also showed a very nice set of instruments), and Dr. Aherson, Veterinary Dentist of Toledo, Ohio.

Moved by Dr. Sutherland, seconded by Dr. Hawkins, to adjourn to meet on Wednesday at 2 P.M. the week of the State Fair wherever State Fair is held. Carried.

B. C. MoBETH, *Acting Secretary*.

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